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ENCYCLOPEDIA

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A Domestic Guide to Health, Wealth and Happiness;

THOROUGH AND EXHAUSTIVE, AND ADAPTED TO THE EASY
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EDITED BY I. N. REED.

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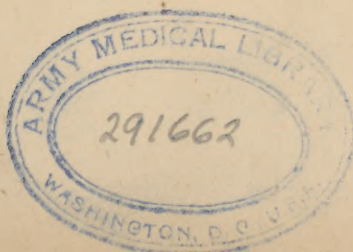
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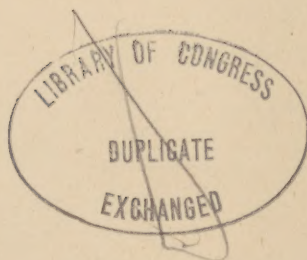
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VOL. II.



DIVISION FIRST.

FOOD IN HEALTH AND DISEASE.

REGULATION OF DIET.

The subject of food is one of deep and constant concern both to the healthy and the sick; not merely for the gratification of the taste, or even the satisfaction of the appetite, but also for the maintenance of life. In health, diet may be left very much to the inclination or taste of the individual, both with respect to quality and quantity; for unless the appetite be perverted and depraved by rich sauces and high seasonings, it is on the whole the best guide. Still, judgment must be exercised, otherwise in respect to eating and drinking, man will degenerate into a mere animal. In disease, on the other hand, the appetite fails to guide, and intelligence and judgment are more required for the selection and rejection of the different articles of diet; much more so, because the regulation of both quantity and quality acquires greater importance than when a person is in health. The taste of an invalid is so perverted that he may reject what is most suitable, and desire what would frequently prove injurious; and his appetite is so precarious that it is not to be trusted to regulate the appropriate quantity. Hence the severity of the disease

might be increased, and the life of the patient imperiled, if taste and appetite guided in the selection and taking of food, instead of intelligent knowledge of the properties of different foods, and judicious experience in their administration.

In not a few disorders an acquaintance with dietetics is as essential to the proper treatment of the patient as a knowledge of *materia medica*; for the action of a medicine may be counteracted by unsuitable diet. It is of great importance to know what variations in food are permissible, for an invalid soon tires of the same food. Tea and toast may be palatable for a time, but "What else may I eat?" is soon the inquiry he ruefully puts. Experience shows too, that there is considerable ignorance of the best methods of preparing the food that is suitable to the patient. In the present day it is deemed desirable to lay down for the guidance of mistresses and servants the principles of cooking, and to form classes and give public lessons in cookery. But these are for the food of the table, not for that of the sick-room. The latter requires more care in selection, more special attention in preparation, more delicacy in serving, than the former. For instance, how much good meat has been wasted, and how many patients have been troubled, because a cook, instead of making good beef-tea, only made a soup!

Dietetic Rules Important—Good health can be maintained, and when disturbed can be restored, only by the adoption of such rules of diet and regimen, as will ensure a due supply of healthy blood to the system. The waste that is constantly going on in pursuing the common duties of life must be repaired, and if the quality of the blood be deteriorated in disease it must be improved. But the blood is what the food makes it. As the supply of food, then, is increased or decreased, or its

quality altered, so the blood is affected and the health is maintained or lowered. Hence the importance of attending to dietetic rules. In consequence of the infractions of these rules many diseases arise. The badly cooked, poor food of the working classes is often innutritious; hence they suffer from various disorders, the best cure for which is not medicine, but sufficient, suitable and properly prepared food. Any one who has been much among the poor, visitors who have tended the sick, practitioners who prescribe in dispensaries, know full well how important a part deficiency or sufficiency of appropriate diet plays, in the condition of those to whom they minister.

The digestibility of food and its subsequent assimilation depend, as we know, as much upon the mode of its preparation as upon the condition of the person who eats it. If this is true of the "healthy," it is more intensely true of the "sick." Not unfrequently a change in the method in which food is cooked, is the simple means whereby it may be rendered acceptable, and easily digested by the individual, who had previously suffered from taking it. Such change may make all the difference for the relief of some functional disorder of the bowels. In chronic diseases of the digestive organs, in which the appetite may be unimpaired or even inordinately increased, attention to some dietetic regulations is of great importance; for in such cases there is considerable danger lest the boundaries of prudence should be overstepped, in yielding to the urgent claims of appetite, demanding excessive or unsuitable food.

It is impossible to lay down regulations for the rational and methodical use of food in health and disease; for in this as in other matters, cases must be individualized. Sex, age, employment, condition of life, physical form, idiosyncrasies, circumstances—all are elements in the

solution of the problem, "What to eat and what to avoid." The father must consider the wants of the family, the mother the special needs of a frail child, the physician the peculiar requirements of his patient, in making arrangements for suitable dieting: no precise rules—hard and fast lines—can be laid down. General principles alone can be enunciated: known scientific facts can be promulgated: well tried common experience can be recorded: then, out of the materials thus supplied, the most fitting for each case must be selected with intelligence and judgment. Even when a selection is thus made, it unfortunately too frequently happens that instructions are not observed. Ignorance, prejudice and carelessness interpose and frustrate the fulfilment of good intentions and judicious advice. Nevertheless, health is maintained and, where impaired, is often restored in spite of these drawbacks. Still, one cannot but reflect that robust health would be more common, recovery more rapid and mortality more diminished if dietetic rules were universally observed.

Violation of Instructions Wrong—There is a neglect, and even a positive violation of instructions to which we must here enter our emphatic protest. A physician prescribes certain food just as he prescribes certain medicine. But while the medicine may be honestly given, the food is withheld or other food is substituted. The patient and the friends of the patient often deceive the physician with reference to diet, and deem the original transgression and the subsequent deception quite pardonable offences, which it is unnecessary to confess. The consequence is that the recovery of the patient is retarded, and the physician and his treatment are disgraced. There are always occurring infractions of dietetic instructions, of which nothing is known unless the aggravation of the disease is so obvious as to lead to disclosure of the indiscretion.

The impossibility of prescribing fixed regulations for diet will also be evident, from a consideration of the circumstance that some persons can take what others are obliged to reject. In fact, there is truth in the saying, "What is one man's meat is another man's poison." Even when there is a similar derangement of the digestive organs, some persons can eat with impunity what others must eschew. Some of the least digestible articles of food, such as fried fish, cabbage, cheese, fats, etc., can be eaten by some dyspeptics, while others cannot partake of them without suffering severely.

In considering the kinds and proportions of food to be eaten, it should be remembered that even healthy persons do not always assimilate all the elements possible, for some escape digestion and pass out of the system with the waste, and allowance must be made for this. Food which requires some strength of digestive function may be thrown away upon an old person whose limited secretions may not dissolve it, and who may therefore be only insufficiently nourished by it, while the same food could be easily and advantageously appropriated by a young person. On the other hand, some easily digested diet which would be suitable and sufficient for an old man would be unsuitable and insufficient for an active youth. The employments of life also necessitate variations in kind and quantity. Even appetite is not an infallible guide. Work that demands physical exercise, and that calling for mental exercise, out-door and in-door work, demand difference in diets. The nursing-mother requires more food and of a different kind from that taken by the quiet housewife of sixty years of age. The patient suffering from chronic unhealthy discharges, must meet that drain upon the system. Morbid conditions and functional derangements of different organs, though insufficient to be regarded as

an "illness," or to keep a person from ordinary work, require consideration in regimen. The good cheer which includes a considerable quantity of nitrogenous aliment is prejudicial to a gouty subject, but beneficial to a man who takes much exercise in the open air. The bread, which is "the staff of life," must be withheld from the diabetic. So that no dietetic rules can be laid down to suit all cases either in health or in sickness.

Fixed Rules Impossible—When the body is in a feverish state, the mouth dry, the thirst great and the pulse accelerated, very little gastric juice is secreted. In such a case, it is obviously improper to take food which requires the solvent of the gastric juice for its digestion. It may contain the essence of nourishment, the very best food cooked in the very best manner, but utterly useless in the stomach, irritating to it and therefore injurious. In the feverish state, rump-steak is consequently very unsuitable diet—more unsuitable if helped down with onion-sauce and condiments, and bathed with a glass of beer. No nourishment is derived from it; it should therefore be avoided till feverish symptoms have passed away and the stomach has regained its tone, however palatable the steak may be, or however anxious friends may be to strengthen the patient. At the commencement of fever there is loathing of everything but cold water. After a while the feverish symptoms abate, then toast or barley-water is agreeable; then luscious fruits are desired and relished, the sugar they contain passing into the system through the mucous membranes without digestion and making no demand on the powers of the stomach. Subsequently, the gastric and intestinal juices are sufficiently secreted to digest farinaceous food: by degrees the patient is able to satisfy his natural appetite, convalescence becomes more rapid, and by and by rump-steak may come to table again. All this is dietetic regimen.

In brief, the regulation of diet is of importance to both the healthy and the sick; but definite rules cannot be laid down by which the diet may be regulated: each one must judge for himself, or must be guided by the judgment of others—a judgment which we hope may be intelligently formed, and directed by a perusal of the following pages.

RELATION OF FOOD TO NUTRIMENT.

Food has been defined as a substance which, when introduced into the body, supplies material which renews some structure or maintains some vital process. Medicine modifies some vital action, but does not supply the material which sustains such action. A supply of suitable food is therefore essential during the medical treatment of disease; for medicine alone will not, and is not designed to, sustain life. Neither, on the other hand, will changes of food so modify vital action when it is disordered as to render the administration of medicine superfluous. Nevertheless it must be allowed that diet does play an important part in promoting recovery from disease, and that some kinds of food do stimulate vital action in a degree far beyond the actual amount of nutritive material they supply.

Elements of Food—The body requires, for the maintenance of its existence, for its growth and for the performance of its functions, a variety of kinds and a variety of forms of food; but as its constituent elements are limited in number, the chemical composition of the food need not include a great variety of factors. Carbon, hydrogen, oxygen and nitrogen exist in far

larger quantity than any other elements; sulphur and phosphorus are also present; but other constituents exist in only exceedingly small quantities. Food should, therefore, supply all these requirements in different combinations if the body is to be maintained in health. It is not, however, necessary that one kind of food should yield every kind of material required in the structure of the body, for then that one would be sufficient; but it is essential that it contain some of the material required; and it is also essential that, by a combination of different foods, all the material required is supplied. Some foods are undoubtedly more valuable than others, either because they supply a large quantity of nutriment in a small compass, or because it is in such a state that it can be easily assimilated. These are of course to be preferred when the functions of the body are deranged by disease.

Food is required by the body for two chief purposes, viz.—to produce and maintain the various tissues while they are fulfilling their divers vital functions, and to generate heat, without which life would cease. That the maintenance of the tissues is of great importance, is evident from the decay of life which is invariably associated with the wasting of the tissues. That the generation of heat is essential, is evident from the fact that while waste of tissues may go on for a long period before death occurs, the removal or lessening of heat is soon followed by the termination of life. When the body is in a state of disease, we have therefore to meet these two principal requirements—the maintenance of tissue and the maintenance of heat. Now, in accordance with these requirements, there are foods which are assimilated by particular tissues, and go to maintain them, called in general terms “flesh-formers:” others sustain the vital heat, and are known as “heat-formers:” others again both nourish tissue and supply heat.

Animal and Vegetable Products—Food is derived from all natural sources—from earth, water and air; from solids, liquids and gases; from substances living and organic, or inanimate and inorganic. The food thus variously derived is converted, by the action of vital forces, into those compounds which the body can assimilate and change into a part of itself. But before it can be so assimilated in the human body, the greater part of it must become organic. Chemical elements uncombined are of no service as food. They must be built up into some living organism to be of service. Hence our food generally consists of animal and vegetable products, the animal having been also previously derived from the vegetable. Indeed, all our foods are primarily derived from the vegetable kingdom; for no animal has the physiological power of combining mineral elements so as to form them into food. But the vegetable assimilates inorganic materials under the influence of light, storing up in itself various elements, in different combinations, essential to the formation and nutriment of vegetable and animal structures. So, without taking much inorganic matter directly into the system, we obtain what is necessary through its presence in the organic.

In popular language, what is taken into the system is termed “food” and “drink;” the former including solid, the latter liquid matter. But, convenient as these designations may be, they do not accurately represent the facts of the case. Milk, for instance, is very rich in solids; while nine-tenths of the component parts of turnips consist of water. A better classification, therefore, is to arrange all food, whether liquid or solid, into organic and inorganic portions—the organic comprising those elements which are combined and produced only through the agency of some living structure, whether vegetable or animal, and the inorganic those which are

derived directly from the mineral kingdom. Water and salt are inorganic.

In view of their chemical composition, organic foods are generally classified as nitrogenous and non-nitrogenous. The nitrogenous consist of carbon, oxygen, hydrogen and nitrogen, in different proportions, with generally the addition of sulphur and phosphorus. The non-nitrogenous consist of only the first three ingredients.

Nitrogenous Food—It will be observed that the presence or absence of nitrogen constitutes the chief difference between these classes; and as it enters very largely into the composition of the body, an abundant supply of it is essential. Some may suppose that, as this is an important constituent of the atmosphere—four-fifths of which are nitrogen—it might be imbibed from the air; but it is not. It is derived from the food, and must be introduced into the system in combination with other organic elements.

Among nitrogenous foods, the flesh or muscular tissue of animals contains the elements which are required for forming flesh and generating heat. Hence life could be maintained for a considerable time on animal food alone. Bread, among vegetable foods, also contains nearly all the elements required for nutrition.

Nitrogenous foods must all undergo the process of digestion before they can be assimilated and form part of the body. This process is really one of comminution and liquefaction. The food is reduced to a finely divided state by the action of the teeth, the muscles of the mouth and the saliva: when it reaches the stomach it is further disintegrated by the action of the gastric juice, with which it is brought into contact by the motion of this organ. Thence it passes out in a state of fluidity, as a very soluble and diffusible product, called *chyme*,

and easily transmitted to the blood-vessels. The food has now lost its characteristic properties, but how the change has been wrought it is not easy to determine. Should any portion of the food, however, pass from the stomach undissolved, it is subjected to a supplementary digestive process in the bowel. The intestinal fluid and the pancreatic juice act as solvents; and the bile (though it does not appear to possess any solvent power) is incorporated with the food, which is now in a condition ready for absorption and for application to its proper use. Under meat-diet there is a more copious secretion of gastric juice: under vegetable the saliva is more abundant: showing that there is provision in the system for variation in the food, and that uniformity in food is immaterial.

The primary use of nitrogenous food is to develop and renew the various tissues; its secondary use is to facilitate the absorption of non-nitrogenous food. Wherever there is life, nitrogenous food must be present to sustain it: non-nitrogenous food contributes to its support: without the former the latter would be useless: the former being present, the latter is a very valuable auxiliary. Nitrogenous food is the main tissue-former, but it also to some extent produces force. Non-nitrogenous food produces force, but it also in some measure contributes to the formation of tissue. Indeed, the best materials for the production of working power as well as heat, are the non-nitrogenous principles; and of these the fats are more effective than others.

Non-nitrogenous Food—Non-nitrogenous food comprises (1) fats, (2) starch and sugar, (3) alcohol and vegetable acids.

Fat is found in both animal and vegetable products. It undergoes little change in the mouth and stomach; but, by the action of the pancreatic juice in the small

intestine, it is digested and reduced to a minute state of subdivision, ready for absorption through small projecting filaments into the lacteal system, by which it is conveyed into the general circulation of the blood. It is by this means deposited in the various tissues, fills up interstices between muscles, bones and vessels, gives regularity to the form of the body, assists in the retention of the heat of the body, and forms a reserve of force-producing material, to be utilized when required. It holds the highest place as a heat-former, for by its oxidation heat is generated in the system. It also appears to facilitate the assimilation of other forms of food; and there is a prevalent opinion that, if it is not supplied in sufficient quantity, scrofulous disorders are developed.

Starch cannot be assimilated without change: when raw, it passes out of the system unaltered. If it is boiled, the granules burst, and the particles are ready for conversion into sugar. This conversion would take place in the mouth, under the influence of saliva, if the food remained there for a sufficient length of time. But it is usually swallowed at once; and when it reaches the stomach the gastric juice arrests the action of the saliva. It then passes on in a semi-fluid state to the small intestine, where the digestion really takes place. The intestinal secretion and the pancreatic juice act energetically on the starch, soften and break up the granules, and convert the particles into sugar.

Sugar is so easily diffused that it requires no preliminary digestive process to prepare it for assimilation. It passes without change into the circulation. If, however, it is supplied in excess of the requirements of the system, when it reaches the stomach it undergoes lactic-acid fermentation, and thus occasions the acidity from which some dyspeptics suffer. When not in excess, the sugar is carried on to the liver, where it undergoes cer-

tain changes which lead us to conclude that it contributes to the production of fat, but not to the production of force.

Alcohol—Alcohol is very rapidly diffused through the system. Some portion of what is taken is evaporated through the lungs and expired with the breath: some is eliminated by the liver and kidneys; and the rest remains for a long time diffused through non-excreting organs, where it is transmuted into new compounds. Its actual dietetic position is scarcely determined, although many researches have been made, and much has been written on the subject. The most recent researches, however, appear to show that alcohol yields no nutriment, but that it acts merely as a stimulant, with variable advantage or injury to the constitution. It contains no nitrogen, and has therefore none of the qualities of tissue-forming foods; nor is it capable of being transformed into them; hence it is not a food in the sense of being a constructive agent in building up the body. It is very doubtful whether it produces fatty matter, except by an indirect and injudicious interference with natural processes; though there is reason to suppose that it lessens to some extent the elimination of fat already existing. If there be any fattening, it is not confined to the external development of fat, but it extends to a degeneration through the minute structures of the vital organs, including the heart, inducing what is termed its "fatty degeneration." Alcohol does not produce warmth, nor sustain it; the glow which is felt is deceptive; for that is due to congestion, like the warmth of inflammation; hence the serious error of taking it in cold weather, when the alcohol and cold act in combination, producing congestion of the lungs and other vital organs, and often leading to fatal consequences. Nor does alcohol give and sustain strength: there is muscu-

lar excitement, which is mistaken for muscular power, produced at the expense of the tissue and drawing upon its reserve of force: there is, in fact, nervous stimulus, but muscular enfeeblement. There are unquestionably occasions when it is necessary to produce the stimulus, even at the cost of subsequent reaction and debility; when, for instance, an enfeebled or fainting heart is temporarily relieved by that relaxation of the arterial vessels which the diffusion of alcohol through the blood induces; or when the flagging circulation of approaching death needs to be quickened that life may be maintained. But the impression that this spirit gives permanent strength for sustained work is as erroneous as it is common. When alcohol is taken in very *moderate* quantity it increases the activity of the circulation, causing the heart to beat more rapidly, the pulse to become faster and fuller, and the arteries and arterioles to dilate (thus producing a characteristic flushing of the face); it increases the secretion of urine, stimulates the appetite, aids digestion, excites the nervous system, and exhilarates the intellectual and emotional faculties. But the price to be paid for all this may be too high, and the habitual use of even a moderate quantity may lead slowly but surely to degenerative changes. Those who drink alcohol, with any of its various admixtures, are in a greater or less degree injured by it—especially the young and “full-blooded.”

Taken in *large* quantities, the *immediate* effect of alcohol is depressing and narcotic. It produces paralysis of the minute arterioles of the circulatory system, so that they lose some of their contractility, and become dilated with the flowing blood. This is seen in flushing of the face. But all the internal organs are similarly affected, so that there is general vascular engorgement and consequent derangement and exhaustion. Simulta-

neously, in consequence of its affinity for water, it alters the condition of the blood, causing arrest of chemical changes and alterations in the composition and forms of the corpuscles. Then there follows an affection of the spinal cord, involving enfeeblement of nervous stimulus and a corresponding deficiency of control over certain muscles. A tottering gait is an indication of this. The brain-centres are then affected, and the controlling influence of the will and judgment are lost, and the emotions and instincts are not held in due subordination. This is followed by complete collapse of the nervous functions, the senses becoming all benumbed and consciousness lost.

Immoderate Drinking—The *ultimate* effect of immoderate drinking is complete degeneration, and this degeneration is certainly not confined to those who are notoriously intemperate, or may be designated drunkards. Women, accustomed to take wine in quantities which they would not deem immoderate, and who would be shocked at the imputation that they were taking too much, have proved unfortunately that they have really taken to excess. The appetite is impaired, digestion is arrested, dyspepsia follows, sleeplessness is produced, muscular power, especially of the legs, is enfeebled, the organic tissues suffer direct deterioration in their structure, and a diseased state is set up in the internal organs. The heart is enlarged, its relative parts being thrown out of proportion, its orifices dilated, its valves stretched, its filamentous cords dilated and its walls thickened. The liver also undergoes structural changes: it becomes enlarged by the production of albuminoid and fatty deposit, or by the increase of connective tissue, and finally there supervenes contraction, atrophy of the canals and cells, forming that gnarled condition known as “gin-drinker’s liver.” The kidney is deteriorated by

fatty modifications, and its functions are impeded. The minute vessels of the lungs are relaxed and easily congested, and the molecular constitution of their tissue is altered; hence chronic bronchitis is common among those who take much alcohol; while consumption, often unsuspected, but of a most fatal form, carries off hard drinkers in the prime of life. Other organic changes also take place, the crystalline lens and retina of the eye are injured and the sight is impaired, an excess of salts is produced in the urine, and gravel and stone are deposited; indeed, there is not an organ that is unaffected. The brain and spinal cord and the whole nervous system suffer, giving rise to serious derangements, which manifest themselves in the worst forms of nervous disease, such as loss of memory and speech, epilepsy, paralysis or insanity. And these derangements, it should be remembered, are more or less transmitted to degenerate offspring. Of the moral effects we say nothing here, although we cannot be oblivious to them.

Water undergoes no chemical change in the system, and produces no force; yet it is indispensable as a component part of food, for it facilitates the chemical changes which take place in the food.

The other inorganic principles which are necessary to a healthy condition of the body are compounds of lime, potash, magnesia, soda and iron; together with phosphoric acid, carbonic acid, chlorine and sulphuric acid. Lime and phosphoric acid are of most importance.

Requirements Vary—The amount of food required varies with different individuals; very much depends on age, sex, climate, season of the year, physical and mental exertion. All vital processes, including the assimilation of food, are most rapid in early life, and least rapid in old age. In childhood and youth there is also the necessity for making provision for the growth of all parts

of the body, as well as the rapid discharge of functions. Man requires more nitrogenous food than woman. The vital processes are also most active in spring, least so at the end of summer; more energetic in cold climates than in hot, in highlands than in valleys. Exertion always stimulates these processes.

ANIMAL FOOD.

The structure of animal food is identical with that of the human body; hence nothing is required in addition to it in order to maintain life. Its chief characteristic is that it contains a large proportion of nitrogenous material; but with it there is usually mingled, either naturally or artificially, so much fat or other non-nitrogenous material that it is adapted both for the formation of tissue and for the production of heat and other force. Undue importance is given by some persons to animal food, as if that alone really nourished the system, and supplied what is required for work and recovery of strength. No doubt it appeases hunger more thoroughly than vegetable diet, and satisfies longer, because it is digested in the stomach, and that organ gives signs of repletion and retains this kind of food for a longer time than vegetable food. Animal food is also easily cooked, and appears to be more easily digested than vegetable; it increases the amount of fibrin, phosphates and other salts, and the number of red corpuscles in the blood; it produces firmness of muscle, it increases the urinary secretion both in quantity and in amount of effete nitrogenous matter, necessitating the consumption of an increased quantity of fluid. Vegetable food has a ten-

dency to increase the deposition of fat. Mr. Banting found that by lessening the amount of vegetable diet he was enabled to reduce his corpulence: this result might be due not only to diminution of the fat-producing elements, but also to the increased oxydation through the lungs induced by the excess of nitrogenous materials. Physiological considerations and experience teach us that a mixed diet as a general rule is best adapted to the requirements of the body.

Animal food comprises (1) the different parts of animals, (2) eggs, (3) milk and its products.

Comparative Values of Flesh—The flesh of young animals is more tender than that of old, but it is not so easily digested. The flesh of middle-aged animals is more nutritive, and has a fuller flavor than that of young. The flesh of old animals, though nutritive, is often very tough. Young and quickly fed animals have more water and fat in their flesh, whilst older and well fed animals have flesh of a firmer touch and fuller flavor, and are richer in nitrogen. The former may be more delicate, the latter are more nutritious; animals of middle age, therefore, afford the most digestible and fullest flavored food. The larger the animal the coarser the meat. The flesh of the female is more finely grained and delicate than that of the male. Animals that have been deprived of their reproductive organs are larger, fatter, more tender, and form better food than those that have not. During the breeding season flesh is unsuitable for food. The flesh of wild animals has less fat than that of well fed, domestic animals, but it has more flavor. The character and flavor of the meat are much affected by the food eaten. The fat of cattle fed on oil-cake is yellow: the flesh of sheep fed on turnips has a flavor of the vegetable: that of mountain sheep is affected by the fragrant herbage on which they graze.

Violent exercise just before death makes flesh more tender than if the animal had been still. The removal of blood in slaughter, while it involves waste of nutritive material, improves the flavor of the flesh, and renders it more easy of preservation. Hanging the meat improves its tenderness. But the best meat may be rendered unwholesome by decomposition. Low-priced meat may be obtained which is very dear; for the animal may have suffered from disease, and thus become unfit for human food. Animals that have been saturated by powerful medicines are also unfit for food; indeed, serious effects have been known to be suffered by those who have eaten the flesh of cattle so treated.

Good Meat—Good meat, according to Dr. Letheby, has the following characteristics:

1. It is neither of a pale-pink color nor of a deep-purple tint; for the former is a sign of disease, and the latter indicates that the animal has not been slaughtered, but had died with the blood in it, or had suffered from acute fever.

2. It has a marbled appearance, from the ramifications of little veins of fat among the muscles.

3. It should be firm and elastic to the touch, and should scarcely moisten the fingers—bad meat being wet and sodden and flabby, with the fat looking like jelly or wet parchment.

4. It should have little or no odor, and the odor should not be disagreeable, for diseased meat has a sickly, cadaverous smell, and sometimes a smell of physic. This is very apparent when the meat is chopped up and drenched with warm water.

5. It should not run to water or become very wet on standing for a day or so, but should, on the contrary, dry upon the surface.

6. When dried at a temperature of 212° or there-

about, it should not lose more than from seventy to seventy-four per cent. of its weight; whereas bad meat will often lose as much as eighty per cent.

7. It should not shrink or waste much in cooking.

Salted meat is objectionable on several grounds. Its common use when fresh meat can be obtained is therefore undesirable, and it is unsuitable for invalids. It is deficient in nutritive value and natural flavor by the extraction of a considerable quantity of the juices of the meat. It is deficient in tenderness, and therefore to some extent insoluble by the digestive secretions. It also acts prejudicially on the system, by the introduction of an excessive quantity of salt and saltpetre.

Beef and *mutton* are the principal fresh meats. The former is of a firmer and closer texture than the latter, contains more red-blood juices, has a fuller and richer flavor, containing more iron, is more satisfying and more strengthening, and makes greater demands upon the digestive powers. Yet it is a common article, not only at the ordinary dinner-table, but even in the sick-room. In many cases of illness, if properly cooked, it may be eaten with impunity, but in typhoid fever, and other diseases where the bowels are inflamed and tender, it produces, in its ordinary form, either as steak or as a cut from a joint, injurious effects. Even in the form of beef-tea it often increases the irritation, keeps up the fever and aggravates the diarrhea; consequently in such cases it should, for the most part, be excluded from the diet-list. As beef requires considerable effort on the part of the stomach to convert it into chyme, it is contraindicated in acute maladies until convalescence has commenced, when by allowing the patient to extract the juice at first, and then swallow a few shreds of the meat, daily increasing the amount swallowed, the digestive organs will be finally won back to their normal condition.

and capability. Nevertheless, there is a form in which beef has been most beneficial. Administered in a raw state, when finely divided and reduced to a pulp, it is very useful in some derangements of the stomach. Although not very palatable at first, a taste for it is soon acquired. In this form it has proved very valuable in cholera-infantum and dysentery, when everything else failed. It should be prepared by scraping with a spoon, and seasoning with a little salt.

Mutton or mutton-broth is much to be preferred for delicate persons. Mutton-broth has less nutritive value than the broth of beef, but having a delicate flavor it is preferred by many persons. It is, however, too rich in fat to be easily digested, unless a large portion of that substance be first removed. Lean mutton, then, should be selected for making broth; the scrag of the neck is a suitable joint. When a patient is so far convalescent as to require solids, a mutton-chop, properly cooked, is generally most suitable. Broiling should be preferred to frying, and to cook mutton-chops nicely a clear fire is absolutely necessary. The chops should be sprinkled with salt and pepper, and placed over the fire for six or seven minutes. They should not be pricked, but should be frequently turned to insure their being thoroughly cooked.

Veal and *lamb* are more gelatinous, less stimulating, less nutritious and less easily digested than beef and mutton. But the character of the flesh varies very much in delicacy, nutritive value and digestibility, according to the mode in which the animal has been killed. Veal-broth is generally prepared from the fleshy part of the knuckle. It is not very palatable; and as it does not contain the nutritious qualities of beef-tea or mutton-broth, it is scarcely advisable to introduce it into the sick-room, except for the sake of occasional variety.

The lean of a lamb-chop cut from the loin is often a morsel which tempts the flagging appetite.

Pork, on account of its fatness, is not so easy of digestion as other meats. *Bacon* and *ham*, however, do not so easily disagree with the stomach; and in this respect they occupy an exceptional position in relation to fat meats and cured meats. Fat bacon, taken with any substances that are rich in nitrogen, is very nourishing. It increases the nutritive value of eggs, poultry, peas and beans. All pork should be most thoroughly cooked, because it is more frequently diseased than any other kind of meat, and the disease, being due to the presence of parasites, is particularly injurious to man. *Sucking pig* is a great delicacy, but of small nutritive value, and unsuitable for invalids.

Venison is lean, dark-colored and savory, having more the character of game than of butcher's meat. It is very easily digested, and is therefore suitable to the dyspeptic and convalescent: its rich flavor may, however, constitute an objection to it, and if it has been kept too long before being cooked, it is very apt to produce diarrhea.

Gelatine, which forms the basis of soup, is the nitrogenous principle of *bones*. They contain a considerable quantity of nutritive matter; but for its extraction they should be broken into small pieces and boiled for many hours. Although investigators have found that gelatine fails to nourish animals when given by itself, it is now a well established fact that, in combination with other substances, it can be turned to account in the system as a force-producing element. In the form of jelly, with or without wine, when not tough, it is readily digested, and serves to allay the feeling of emptiness and hunger when more nutritious food cannot be well taken. Being demulcent, and possessing no irritating qualities, it proves very useful in inflammatory affections of the

bowels. As it is soothing and grateful, it may be allowed where diarrhea is not to be feared. In the preparation of gelatine-jelly it is very essential to soak the gelatine, as procured in the shops, in cold water for some time.

Liver of the calf, lamb or pig, when fried, is rich and savory, but is not suitable for those whose digestive powers are feeble. *Kidney, lungs* and *heart* are as nutritious as lean meat, but are also unsuitable for invalids. *Tripe*, when gently boiled for about an hour, is a food of somewhat delicate and agreeable flavor, and of very easy mastication and digestion, but from its fatness is rather rich. The ease and rapidity with which it is digested, and the considerable nutriment which it affords, seem to render it most suitable for the sick, but in practice it is found that the absence of decided flavor, its unsatisfying character and the unusual nature of the food prevent its selection by the sick generally. *Sweetbread* is easily digested, and when simply cooked is not unsuitable for the convalescent, but when richly cooked will disagree with the dyspeptic and invalid. The *head* of the *ox* or *sheep*, boiled for eight or nine hours to extract the nutriment, makes excellent soup. *Ox-tails* are commonly employed for the same purpose. The *tongue* of all animals, especially of the *ox*, is a great delicacy, but from its being fat and eaten salted, is not adapted to weak stomachs. *Sheep's legs*, as a bridge from soup to meat, are excellent when well boiled. *Sheep's brains* are highly commended as a means of conveying phosphates.

Preserved meat is not so nourishing as the same amount of properly cooked fresh meat, on account of the overcooking demanded by the process. It has the recommendation, however, of being much cheaper than fresh meat. It may be rendered more palatable by being minced and warmed or stewed with vegetables, but to prevent further loss of nutritive properties it is best eaten cold.

Extract of meat should consist of the concentrated essence of the juice of flesh; but a good deal that is sold as such is solidified soup, with the addition of gelatine. Good extract is slightly acid, of a pale, yellowish-brown color, with an agreeable, meat-like odor. It should be perfectly soluble in cold water, and should not contain albumen, fat or gelatine. It possesses more the character of a vital restorative than a nutritious food. It is deficient in albumen, and, as in the case of soup and beef-tea, its nutritive power must be assisted by vegetables and other substances which are rich in nitrogenous matter. Biscuits are now made combining the extract with a proper proportion of flour. The extract may often prove a fair temporary substitute for beef-tea when there is not time or convenience to make the latter, but it must not supersede it in the sick-room. When taken during fatigue it has been found to be remarkably restorative, increasing the power of the heart, and removing the sense of fatigue following exertion. Mixed with wine, Dr. Parkes states it has been employed with great success in rousing men in collapse from wounds. It was the means of saving the lives of many wounded men in the Austrian army in 1859, and in the war between the Northern and Southern States. It would, therefore, be useful after surgical operations.

Birds occupy an important place among the sources of food, especially in the diet of the sick-room. Their flesh consists of delicate muscular tissue, without any admixture of fat, being in some cases white, in others dark-colored. The juices are deficient in red blood, and have a more delicate flavor than those of adult animals. One can truly affirm that there is no bird, or part of a bird, which may not be eaten with safety by man.

Poultry, such as *fowl*, *turkey* and *Guinea-fowl*, is white-fleshed, has a delicate flavor, and is tender and

easily digested. As the flesh is milder and less stimulating than that of ordinary meat, it is well adapted to those whose powers of digestion are enfeebled. But it is not very nourishing; it contains too little fat, and needs pork or bacon to supplement this deficiency. Sexless birds, as the capon and pullet, grow larger, fatten better, and are more tender and delicate than ordinary poultry. *Ducks* and *geese* are not so well adapted as poultry for the sick-room, for their flesh is harder, richer and more highly flavored.

Game—*Pheasant, partridge, grouse, woodcock, snipe* and *quail*—has a delicate flavor, which improves by keeping (fuller and stronger than that of domesticated birds), is strengthening, tender and easily digested. It is thus tempting to the appetite, and is well adapted to a weak stomach. It therefore forms a valuable diet for the sick-room, and can be taken when other meat and poultry are rejected. But the darker flesh of game requires culinary management to render it digestible.

Wild-fowl, with its close, firm flesh and strong flavor, is not adapted for dyspeptics and invalids.

Pigeon and smaller birds are usually tender and relishing, and may be eaten with safety by the convalescent.

Fish is very valuable as food if eaten as soon as possible after capture. There is a prejudice against it from the belief that it has no nutritive value, but this probably arises from the fact that it does not easily satisfy hunger, and is quickly digested, so that the appetite soon returns. It is, nevertheless, highly nutritious. Fish-eaters, says Dr. Davy, are “especially strong, healthy and prolific. In no other class than in that of fishers do we see larger families, handsomer women and more robust and active men.” Fish, especially white fish, is less stimulating than meat, contains little fat, is easily



TROUT-POOL.

digested, and *therefore forms the most suitable aliment for invalids, dyspeptics and those who suffer from brain-fag.* Indeed, in consequence of the large proportion of nitrogenous matter in the composition of fish, abounding as it does in brain and nerve-making elements, it is especially adapted to all those upon whom there are great demands for nervous energy, and is therefore useful in some cases of nervous exhaustion.

The quality of all fish is superior before spawning-time, for it is then "in season:" young fish can always be eaten. Fish caught from the deep seas are better

than those from shallow bays. Fresh-water fish from deep, clear water, with a stony bottom, are better than those from muddy shallows. "What herring," says Dr. Davy, "is equal to that of Loch-Fyne? what haddock equal to that of the Bay of Dublin? Of fresh-water fish what a contrast there is between the lake-trout and the brook-trout! the one well fed, well flavored, of the color of salmon; the other small, colorless and insipid. What a contrast between either of these and the trout of bog-water! the latter black, soft, ill-formed and ill-tasted. What a contrast, again, between the trout inhabiting a stream in a fertile limestone-district fed by springs, fluctuating little, and the indwellers of the mountain-stream of a primitive country, subject to great fluctuations—one day a raging torrent, in a brief space run out and all but dried up! As with other animals, whether beast or bird, domestic or wild, much, we know, as to their quality, depends on their feed, its kind and quantity; and so with fish."

A sign of the freshness of fish is its firmness and rigidity. For the invalid it should always be *boiled* or *broiled in oil*: the fat added in *frying* renders the fish less digestible. Dried, salted, smoked or pickled fish should not be seen in the sick-room. A little fresh fish, well boiled, served with bread and butter, without sauces and seasonings, may frequently tempt the fastidious, dainty appetite.

Salmon stands preëminent as a delicacy, and more nearly resembles the meat of animals than that of other fish; fat is intermixed with the muscular fibre, and underlies the skin, particularly of the abdomen; it is therefore rich—too rich for invalids; otherwise the nutritive value of its flesh to those who can take it differs but little from that of the red-blood flesh of other animals.

Mackerel, Herring, Pilchard, Sprat and Eel are also

fatty in their composition, and therefore less suitable than white fish for those whose powers of digestion are feeble. Amongst white fish are *Haddock*, *Whiting*, *Sole*, *Flounder*, *Cod*, *Turbot*, *Brill*, etc., whose flesh contains little fat, except in the liver. *Whiting*, the chicken of fish, is the most delicate and easy of digestion. *Sole* possesses the same excellence, and deserves its popularity in the sick-room. *Haddock* is firmer, not so delicate nor so digestible. *Flounder* is tasteless, but also harmless. *Cod* is close, firm, tough, and indigestible by a weak stomach. Fried Cod is like veal-cutlet, but drier. *Turbot* has richer flavor, but does not stand high as food for invalids. *Brill*, though inferior in flavor, is safer as food; the skin of both, when boiled, appears to be gelatinous, but though preferable as a delicacy for the healthy, is not suitable for the weak. The most delicate of all fish is probably the *Whitebait*, except it be rivaled by the fresh *Smelt*; but the accessories are not good for invalids.

Fish-broth contains nearly the same component parts as meat-broth, and in some countries fish-soups are as much esteemed as those of meat.

Isinglass, obtained from the air-bladder of the sturgeon, is a valuable and nutritious vehicle for the administration of other ingredients of food, surpassing gelatine in value.

Shell-fish, with the exception of oysters, are less nutritive than other kinds of fish, less digestible, and more likely to disagree with weak stomachs than most kinds of animal food. In some persons they produce gastric irritation and disorders, and in others nettle-rash and similar eruptions. Indeed, so marked is this effect on some constitutions, that it is necessary to forbid shell-fish altogether.

Lobster and *Crab*, though very agreeable to many

persons, are not suitable for those whose digestive organs are weak, and consequently should not be introduced into the sick-room. Indeed, some persons in ordinary health cannot take them, because they are not easily digested, even when stimulants of the gastric juice are added in the form of vinegar and pepper.

Prawns and *Shrimps* belong to the same family as the lobster, and are somewhat more readily digested, but they are not suitable for invalids.

Turtle-soup is luxurious and rich, and, in small quantities at a time, is often very restorative to invalids.

Oysters are nutritious, and readily digested even by delicate stomachs. From recent researches it appears that they contain sufficient pepsin to be self-digestive. By invalids they should be taken without the hard muscle by which the fish is attached to the shell; they should also be taken *raw*, and masticated before they are swallowed. To eat them with vinegar is to commit a dietetic mistake. It is a good plan to keep them alive for a day or two by placing them in a shallow dish of clear brine, feeding them with meal and changing the water, so that they may lie bare for a while, and then be flushed again twice a day, in imitation of the tide. They should only be eaten from September to May. As a means of conveying phosphates they are invaluable.

Fresh oysters are most grateful in chronic dyspepsia, where nausea is present, in the case of consumptives, for the trouble of morning sickness, in chronic diarrhea; they can be eaten with advantage by the nursing-mother, who will in this way not only strengthen her own system, but also that of the child at her breast. Convalescents from fever will find in the oyster a food both delicate and nourishing.

Oyster-stew, prepared plain or with milk, and oyster-essence made by slowly simmering oysters in their liquor

or a little water until they swell, seasoning with salt, straining the liquor, and serving with dry toast or plain biscuits, are excellent methods of giving oysters.

Mussels and all other shell-fish, except oysters, are not suitable for invalids.

The flesh of *Rabbit* has some resemblance in general and nutritive character to that of poultry. It is somewhat loose in texture, without decided flavor, and is digested with ease. It may be eaten by the convalescent with due caution against unsuitable accessories and condiments.

The flesh of the *Hare* is of harder texture, of fuller flavor and more stimulating nature than that of the rabbit. It is most nutritious; but as it is not very easily digested, it is a food for the healthy rather than for the sick.

Eggs, if the shell be included, contain everything that is necessary for the formation and maintenance of the body. This food does not, however, exist, as in milk, in a state of perfect solution, but in a semi-liquid form; consequently some digestion is necessary before it can be assimilated. The white of the egg consists chiefly of albumen, without fat, and in a condition which admits of easy absorption, the ease being increased if it be shaken or beaten up with water. The yolk contains all the fat of the egg, held in suspension by some portion of albumen, and is therefore richer than the white. Raw and lightly boiled eggs are readily digested. It has been found that the yolk is more digestible when hard-boiled, while the white is least so. If the albumen be coagulated by the heat of cooking it becomes heavy and difficult of digestion, and sometimes produces constipation or irritation of the bowels. It should therefore be particularly avoided by dyspeptics, and by persons recovering from illness, before the full powers of diges-

tion have been regained. If the insoluble portions of hard-boiled eggs are delayed in the stomach and intestines, they putrefy, and the sulphuretted hydrogen and ammonia evolved become irritating to the intestinal canal. But fresh, uncooked eggs are almost wholly free from these objections. A fresh, raw egg, thoroughly stirred into about half a pint of milk, forms, to most persons, a palatable and nourishing article of diet. One great advantage this preparation has over other food is that all the component parts are retained in their natural state, are more completely dissolved, and consequently make less demands upon weak digestive powers, than when the egg is eaten in its solidified form. If patients object to the taste of raw eggs, a little sugar may be added; or if this be not sufficient, some simple flavoring extract may be used. Wine or spirits are often employed but they are usually objectionable, and should be dispensed with if possible.

Eggs seem to be particularly useful in lung-diseases, and in cases of exhaustive cough seem to act as palliatives.

Artificial Fibrin, so called, has been found available when no other food could be taken. It is thus prepared: The white of an egg is poured into cold water and allowed to remain for twelve or more hours, during which time it undergoes a chemical change, becoming solid and insoluble, assuming an opaque, snow-white appearance. This and the liquid in which it is immersed are heated to the boiling-point, and the fibrin is ready for use. It is very easy to digest, and to many is quite a delicacy. It is said that the stomach will retain this in many cases when everything else is promptly rejected; its presence creating a craving for more food, and thus promoting instead of diminishing digestion.

Egg, with milk and sugar, forms a plain custard, which is often allowable and very grateful.

Eggs undergo change by being kept. The porous shell allows the evaporation of water and the infiltration of air; certain organic changes also occur when the shell is rendered non-porous. To test the freshness of an egg, an ounce of salt may be added to ten ounces or half a pint of water: in this solution a fresh egg will just sink: one that has been kept for several days will float. A bad egg is often sufficiently light to float in pure water. Fresh eggs may also be known by holding them up to the light, when they will appear clear: if stale they will appear cloudy. Fresh eggs are most translucent in the centre, stale ones at the end. In order to preserve the freshness of eggs, various plans have been adopted to render the shells non-porous, or to exclude air; such as boiling them for half a minute, keeping them in lime-water, bran or salt, or covering them with a coating of wax, oil, butter, gum or varnish; but with only variable success. No musty egg is good for food, even when put into puddings; it should be banished from the house if there be the slightest smell of old straw about it.

Duck's eggs are larger and have a stronger flavor than hen's eggs: the solid matter and the oil in a duck's egg exceed those of a hen's by as much as one-fourth. They are not often introduced into the sick-room, but there is no reason why they should be excluded if the flavor be agreeable to the patient.

Milk—Pure milk contains in solution, like eggs, all the elements required for the growth and sustenance of the body. This is especially true in relation to a child. Indeed, it may be regarded as the typical alimentary substance; for it combines nitrogenous, fatty, saccharine and mineral matters, and water, in such proportions as are required by the animal economy, and in such a state of mixture and liquefaction as to be easily assimilated. In fact, it requires no digestion; and it is this

excellence which renders milk a most important and convenient article under many circumstances. It is already digested and prepared for absorption. In cases of fever, pure milk as the main article of diet is far superior to anything else, especially in typhoid and other fevers involving disturbance of the stomach and bowels. Beef-tea, which is commonly used, is often irritating; but milk, on the contrary, is soothing, cooling, and at the same time nourishing and strengthening. In chronic disorders of the stomach and bowels, a milk-diet is a most valuable accessory to medical treatment. It allows the stomach to have almost absolute rest, which in many cases is all that is required. And this quiescent condition can be prolonged almost indefinitely, since an adult can be sustained for days or even weeks on milk alone. It should, however, be observed that milk would not be suitable diet for adults in health, as the nitrogenous matter is in considerable excess in proportion to the carbonaceous. It is suited to young persons who have to grow, and who in order to grow must appropriate an excess of what is nitrogenous to form a daily addition to the body. On the other hand, it is not so suitable for full-grown persons, who have not so much to form tissue as to develop heat or other force by the combustion of carbon.

It must not be overlooked, that the several elements or constituents of milk vary in quantity and proportion in different animals, and under different circumstances in the same animal.

Woman's milk is, of course, the standard. Cow's milk more nearly approximates to it than that of any other animal, and hence is most generally used. Cow's milk contains considerably more casein, or curd, less sugar, and a little more butter than woman's milk; consequently when the former is substituted for the latter it

should be largely diluted with water and receive a little sugar. Goat's milk is richer than cow's; sheep's milk still richer. Ass's or mare's milk is much poorer, but much sweeter. Indeed, so large is the proportion of sugar of milk in the last that it is fermented and converted into a spirituous liquor, known by the name of *koumiss*, and successfully administered in many cases of consumption, chronic bronchitis and chronic diarrhea.

Cow's milk varies very much in quality. After calving takes place the first fluid secreted differs considerably from ordinary milk, and is termed *colostrum*; consequently cow's milk, for three or four weeks after calving, is not entirely pure and not well adapted for food: it has a somewhat sickly smell, and often acts as a purgative.

The milk of the Alderney-cow is characterized by its richness in butter, that of the long horns by its richness in curd. The product of young cows is preferable to that of old ones, and as a food for infants the age of the secretion should be less than that of the baby; that is to say, a cow with a calf two months old may do very well to feed a child of four months. The milk first drawn from the cow contains less cream than that which is last drawn; indeed (especially if some time has elapsed between the times of milking), the amount of cream in the latter may be two or three times as much as in the former. The milk of the afternoon is richer both in curd and butter than that of the morning. The food on which the cow is fed considerably affects the quality of the milk: poor diet impoverishes it: strong vegetables, such as turnips, cabbages and onions, flavor it: decayed leaves make it disagreeable: poisonous plants render it injurious: nothing is equal to the fresh pasture of country-fields for securing good milk.

Its quality may be tested by the amount of cream it produces, by its weight, and by its specific gravity.

The larger the proportion of cream, the better the milk. A quart of new milk, cooled, should weigh about 2 lbs., $2\frac{1}{4}$ oz., if it is of fair average quality. The addition of water or an excess of cream lowers the specific gravity. But whether or not the milk be diluted with water, it is not unfrequently rendered unwholesome by being put into vessels that have not been cleansed by thorough washing-out with soda. On stale milk, even in minute quantities, a small blue fungus, or mould, very speedily forms, which soon spreads to fresh milk and causes it to turn sour; hence colic, diarrhea and thrush are occasioned in those who partake of it.

Fifteen grains of bicarbonate of soda to a quart of milk prevents it from turning sour, and also renders it more digestible.

Milk, though nourishing, does not agree with every one. If diluted with one-third lime-water, it will rarely cause biliousness or indigestion, and if taken regularly will so strengthen the system as to banish these disorders. It may be taken with acid of some kind when it does not easily digest. The idea that milk must not be eaten with pickles is not an intelligent one, as milk curdles as soon as it is swallowed. When milk is constipating, a little salt sprinkled in each glassful will avert the difficulty. When it has an opposite effect, a few drops of brandy in each tumblerful of milk will obviate purgation. It is a mistake to drink milk between meals: it will destroy the appetite. After finishing a meal a tumblerful of pure milk may be drunk, and a pint with a biscuit makes a light supper. In cases of fever, in exhausted conditions dependent on loss of blood, and in summer-diarrhea and other inflammatory affections of the alimentary tract, it may be given scalded with excellent results: it is a sheet anchor in typhoid fever. Owing to outbreaks

of fever which were traced to infected milk, many persons adopted the precaution of boiling all milk before using it, and thus the disease-germs which it may have contained were rendered innocuous. This is a good plan for persons resident in towns. But when used as a substitute for mother's milk, cow's milk should not be boiled, but only raised to the temperature of breast-milk by the addition of warm water.

Cream is composed of the fatty constituent of milk, which, on account of its lightness, rises to the surface when the milk is allowed to stand. It forms the basis of butter. It can often be taken freely when nothing else will remain on the stomach, notwithstanding the abundance of fatty matter. It should always be fresh, and may be diluted with water or given pure if desired. *Clotted cream* is produced by heating milk just to the point of simmering, which causes a scum to form with the fatty matter and give it more consistence.

Skim-milk is that from which the cream has been removed, and being consequently less rich than ordinary milk, it can frequently be taken by invalids when the latter cannot.

Butter-milk is what is left after the extraction of butter. It of course contains less fatty matter than skim-milk, but it retains the nitrogenous, saccharine and saline matter, and is therefore very nourishing and useful as an article of diet. Unless very fresh it is generally a little acid. It is one of the most refreshing summer-drinks that can be taken, and is almost always allowable in sickness, especially in fevers with gastric symptoms. It appears to produce a gentle activity of the liver and kidneys, particularly of the latter organs.

Curds are the casein and fat of milk combined by coagulation of the milk. They form the basis of cheese. The addition of an acid to the milk sets free the casein,

which is held in solution by an alkali and causes coagulation.

Whey is the residuary liquid after the curd has been removed, containing little of the casein and fat, but all the sugar and salts of milk. The casein and fat being absent, there is no fear of curdling in the stomach, and thus causing pain or diarrhea. Whey can, therefore, be taken by many persons with whom milk disagrees. It is not very valuable as nutriment, but it is very digestible, is easily absorbed, and is a refreshing drink in the sick-room, especially in inflammatory disorders. A slight flavor of nutmeg makes it very palatable. There is a prevailing opinion that whey causes sweat; hence wine-whey, alum-whey, tamarind-whey, etc., when the milk has been curdled by these substances, are recommended. The method of preparation is given hereafter.

In Switzerland whey is supposed to have medicinal virtues, particularly for the relief of chronic disorders of the abdominal organs.

Condensed milk is milk preserved by the evaporation of a large proportion of its water, and the addition of cane-sugar. It is sold in hermetically sealed tins, in which it can be kept for several years: when the tins are opened it is found in the form of syrup, which will remain good for several days. It is very useful for the diet of invalids, in the making of light puddings, or other food into which milk largely enters. It requires the addition of a considerable quantity of soft water (three parts water to one part milk) to replace what has been evaporated. Being already sweetened, it needs no addition of sugar. Its sweetness renders it very agreeable to infants, who take it readily, grow plump, and apparently thrive well upon it.

Koumiss, which is fermented mare's or cow's milk, has been found very useful in some cases of consump-

tion. The Russian plan of making it is as follows: Two teacupfuls of wheat-flour are mixed with one spoonful of honey, one of good beer-yeast, and sufficient milk to form a not too thin paste: the whole is put in a moderately warm place to ferment. When fermentation takes place the ferment is put in a linen bag, and hung in a jar or keg containing sixteen pounds of fresh mare's or cow's milk, covered and allowed to stand till the milk has acquired a pleasant acidulous taste (about 16 to 24 hours, according to the temperature). The butter and cheese-particles which float about are now skimmed off, the liquid is poured into another keg and shaken for one hour, after which time it is poured into bottles, corked and put into the cellar. A "cure" requires the product of twelve to fifteen pounds of milk daily; the best season for it is from May to July. The koumiss is taken early in the morning, every hour (a teacupful to a tumblerful at a time), and plenty of exercise must follow.

Butter is the fatty portion of milk, obtained by churning the cream or the entire milk. This operation causes the rupture of the envelopes of the fat globules, which then coalesce and become incorporated into a solid mass. Milk yields on an average $5\frac{1}{2}$ per cent. of butter. Milk requires a temperature of 60° . When the butter is formed it should be worked and washed with water to remove the casein, fatty acids, and other ingredients which would prevent its keeping sweet and fresh. Salt is added to preserve it. If syrup be added instead of salt, or sugar with which is mixed a little salt, butter is said to keep better. The exclusion of air also preserves it, and simply covering it with water renewed every day will keep it fresh for a week. But a better plan is that of M. Bréon, who adds water slightly acidulated with acetic or tartaric acid, and places the whole in a closely fitting vessel.

When pure and fresh, butter is more easily assimilated by delicate stomachs than most other fats. It is also the form of separate fat which is less frequently disliked by consumptive people and invalids generally; but it should not be too bountifully supplied. Butter that has become stale or rancid, or been exposed to heat (as for buttered toast), is very likely to disagree with dyspeptics and other invalids, and cause diarrhea. Indeed, as a rule, all kinds of decomposing fats disagree with the stomach. There are ready means of detection through the senses of sight, taste and smell, when butter is adulterated. Pure butter should be of a uniform rich yellow appearance: when a streaky look is imparted by quickly passing over it a clean knife the presence of adulterants is always to be suspected. When melted it should yield a clear-looking oil, with but slight deposit of water or other substances. When placed on the tongue it melts quickly and leaves the tongue perfectly smooth; while, on the contrary, there will be a sense of roughness, a granular taste and the peculiar flavor of the adulterant, as the results of this test when butter is adulterated. The odor of butter is very persistent, and therefore does not so well mark its purity or the reverse.

Cheese is the nitrogenous portion (casein) of milk, with a proportion of fatty matter, obtained by coagulation into curd by means of rennet or vinegar. The curd is subjected to pressure in a mould, of the future form of the cheese, in order to remove the whey. When sufficient consistence has been secured the cheese is exposed in a cool, airy situation to dry and ripen. During this process both casein and butter undergo change, volatile, fatty acids are produced, flavor is developed, and in some cases fungi are formed. The rich and soft quality of the cheese depends on the amount of fatty matter in the milk from which the cheese is made: the richer

cheeses are formed by the addition of an extra quantity of cream : the poorer cheeses are made from skim-milk. Poor, close cheeses keep the best.

As cheese is rich in nitrogenous matter, it stands very high in the scale of nutritious food ; one pound being equivalent to three and a half pounds of lean beef. Taken with bread or other vegetable diet, it is very nutritive to persons of active habits. As a relish or condiment it stimulates digestion. But on the whole it is not very digestible, and therefore not suitable for persons of sedentary habits or for invalids, especially at bedtime. The close, poor cheeses are less easily assimilated than the soft, brittle and strongly flavored, but they may be rendered wholesome by being cut in very thin slices and buttered. Toasted cheese is also digestible by a healthy stomach, if it is new and lightly cooked with cream and butter ; but as ordinarily prepared it is one of the most indigestible articles that can be eaten.

Cream-cheese is fresh curd moderately pressed ; it must be eaten fresh, as it will not bear keeping long. It is more digestible than ordinary cheese, because it is softer and may be readily masticated, and because it has a less proportion of casein. To many invalids it will prove a pleasant variation with other diet.

Lard, which is derived from the loose fat of the pig, is a very pure fat ; but it is so tasteless as to be seldom eaten except in pastry, or as the medium in which substances may be fried.

Dripping, derived from roasting joints, if not burnt, is one of the most nutritious forms of fat, and very agreeable. Its flavor depends on the degree to which the flesh is roasted. It may sometimes prove a welcome alternative to butter in the sick-room. Salt should be eaten with it. But it must be taken in moderation, and its action watched, or it will disorder the stomach and heighten fever.

VEGETABLE FOOD.

Vegetable products enter largely into the food of man. Even the more common articles of food in this class present considerable variety. They are consumed in the form of seeds, roots, leaves, herbs and preparations of different kinds.

Farinaceous seeds form the largest portion of our vegetable food, and are the most extensively used: they are of great nutritive value, of easy digestion, plentifully yielded and universally grown.

Cereals hold the first place. The general composition of all of them is very similar, but on account of the differences that exist in the proportions of their component elements they have different nutritive values. Even the various kinds of wheat are not exactly alike, especially in the relative proportions of nitrogenous matter and starch. On an average, wheat contains more nitrogenous matter than other grains. Oats come nearest to wheat in this respect, and are of equal value to many wheats; they also contain a large proportion of fats and salts. Maize is rich in fatty matter, moderately so in nitrogenous, but poor in salts. Rice is very rich in starch, but poor in other constituents.

Wheat—The constituents of *wheat* more nearly correspond with the requirements of the human system under ordinary circumstances than any other grain; and life and health can be maintained on wheat alone for an indefinite period, provided there be an adequate supply of good water and air. Hence it is one of the most widely cultivated of the cereals.

As it is ordinarily used, however, it is deprived of

much of its nutritive value; for the portion which contains the largest amount of nitrogenous matter is removed in order to meet the demand for whiteness in the bread. Each grain, after being thrashed out of the straw and winnowed from the husks, is composed of a hard, thin, outer coat, or bran, a soft, brittle, intermediate layer of cells, and a central white substance chiefly composed of starch. The outer coat is woody, indigestible, useless for nutrition and irritating to the alimentary canal. In some cases it may therefore be advisable to retain it, to act mechanically to stimulate the action of the intestines in constipation; but when used by persons who take active exercise it is too stimulating, for it causes the food to pass hurriedly through the canal before the process of disintegration and assimilation is completed. For invalids, and persons whose digestive organs are in a state of susceptibility, it is too irritating. The inner coat is of most value. It is usually removed with the outer coat in dressing the flour. But it is the richest part of the grain in nitrogenous matter, fats and salts; the part which contains food for muscles, bones and brains; and the more thoroughly this is removed, the finer the flour is dressed, the whiter the bread produced, the less valuable is the bread for nutrition. The central, white material of the grain is chiefly composed of starch, but it comprises also a proportion of the more nourishing elements, though the proportion is so small that the utility of the grain is sacrificed to the appearance of the bread. Many writers—notably Liebig—have pointed out the waste of nutritive material, and the unwisdom of preferring white bread to that which contains the nitrogenous portion. Pavy, however, reminds us that bread is not our only food; that what is rejected in the bread is taken in other forms; and that through animal diet we receive the very elements which have

been eliminated from the flour. Certainly to most persons the white bread is more palatable, and presents a more pleasing appearance, than the more nutritious bread, but the taste is probably a matter of habit. If it were not that it gave a dark color and a soft consistence to bread, a very important, soluble, nitrogenous matter, called *cerealine*, might be utilized by soaking the bran in warm water for some time and using the water in the preparation of the dough for bread. It would be better to sacrifice the appearance and cultivate another taste, if thereby more nutriment could be obtained. Young and growing children are great but unconscious sufferers from the common custom. Many are weak from malnutrition, grow up with defective teeth and bones, weak tissues, inadequate muscular development, and are susceptible to diseases which they have not constitutional strength enough to combat and resist.

Bread made with sea-water is said to increase the appetite and stimulate digestion. It is pleasant to eat and exercises a beneficial influence in dyspepsia, consumption and scrofula. It has also been found conducive to health on board ship during long voyages.

Stale bread is preferable to new, especially where there is any weakness of the digestive organs, for the softness of new bread renders it less easy of mastication and insalivation, more clammy and cohesive, and therefore less penetrable by the gastric juice. In the stomach it often ferments afresh, and even in persons of good digestion produces heartburn. Stale bread is firm and more brittle under the action of the teeth, and more easily penetrated by the digestive juices than new bread. It is generally the most digestible one or two days after it has been baked. The best bread grows stale most slowly.

Aërated bread, made by forcing pure carbonic acid

into the dough, keeps better than other kinds, is free from remains of yeast, does not induce the fermentative changes in the stomach, which cause dyspepsia, flatulence and heartburn, and is more likely to be wholesome than ordinary baker's bread.

Sour bread and mouldy bread are unwholesome and may produce injurious and even fatal consequences. As bread is poor in fat and salts (when only white flour is used), the common practice of eating butter, bacon, dripping or other fat with it is, therefore, more than the gratification of a taste, it is a physiological necessity.

Toasting bread greatly increases its digestibility, provided the process be properly carried out. To cut the bread into slices so thick that while the sides are rendered crisp the interior becomes spongy, and then to soak the whole with butter, is to render toast very indigestible. The slice should be toasted brown, not burnt, so that it may be crisp and firm throughout. It then constitutes the best form in which starchy food can be given; for much of the starch is changed into glucose by the heat, and in wheat-bread there is some little gluten, which partly supplies the place of albumen. If toast is buttered, the butter should be applied as the toast is eaten, so that it may not become soaked with butter. By some it is much enjoyed without butter, and is then more readily digested. *Toast-water*, when properly prepared, forms an almost indispensable article in the sick-room. If good, stale bread or biscuits are nicely toasted, not burnt, and then placed in a dish or jug, and hot water poured on and allowed to cool, the drink will often prove more palatable than water alone.

Rusks, tops and bottoms, and *pulled bread* are forms of toast. Rusks are made of flour, butter, milk, eggs and sugar, baked and dried. Pulled bread consists of the interior only of a new loaf from which the crust is

stripped, dried and browned in a quick oven, and constitutes a suitable form of bread for those whose digestion is weak.

Biscuits and *rusks*, on account of having been dried, are not likely to become mouldy and unwholesome. Biscuits have this further recommendation, that as they contain little water, they are, bulk for bulk, more nutritious than bread, three-quarters of a pound being about equal to a pound of bread. Those made without butter are sometimes not easily digested, and patients soon tire of them from lack of variety.

Wheaten biscuits, either sweet or plain, are made of whole wheat finely ground for the purpose, and are most suitable for those who suffer from dyspepsia and constipation. They are not cloying and indigestible, like brown bread new, nor dry and husky, like brown bread stale, but are sweet and agreeable to the palate. They may be used either at tea and breakfast or with meat at dinner, as the consumer pleases, and in such quantities as may be requisite.

Biscuit-powder, made from captain's, or ship-biscuits, which consist of flour and water only, and prepared with milk, can be sometimes taken by invalids who cannot bear solid food. It is also suitable for infants.

Cracknels are light and easily digested.

Sponge-cakes are also light, and often tempting. They may be soaked in hot milk; as also may rusks and cracknels.

Muffins and *crumpets* are very indigestible.

Gingerbread, when dry, crisp and light, is acceptable to many dyspeptics.

Macaroni and *vermicelli* are very nutritious, but not easily digested on account of the closeness of their texture.

Semolina is made from the inner part of the wheat-

grain, is nourishing and digestible, and is useful for puddings, or to thicken soups, broth or milk.

Oatmeal—*Oats*, when ground, form a flour which is not so white as wheaten flour, and when made into bread has a peculiar taste, half sweet, half bitter. The Scotch oatmeal is coarser than the American, and is generally preferred for its flavor and for its nutritive qualities. On account of the large proportion of fats and salts contained in them, oats form a very nutritious food. When deprived of their covering, oats are known as *groats* or *grits*; when crushed, they are sold as Emden groats—the form best adapted for gruel. Groats and milk furnish perfect nourishment, even for an adult. Oatcake-bread, in large, thin flakes, is a common article of diet in Scotland, and in some parts of the north of England. *Porridge* is a hasty pudding of boiled oatmeal. The oatmeal should be mixed, at first very thin, in boiling water or milk; while boiling, the meal should be sprinkled slowly on the surface and stirred in; when enough is added, the whole should simmer for half an hour or longer, with an occasional stir. If, however, the oatmeal be imperfectly boiled, as when prepared in haste or intentionally unboiled, it is extremely indigestible, and produces obstinate water-brash and flatulence; but if well boiled, and eaten slowly so as to become thoroughly mixed with saliva, it is most wholesome. *Gruel* is a similar preparation, taken in a more liquid form. It should be boiled until every particle of the meal is cooked. It may be made with milk instead of water, or part water and part milk, and is generally better if strained, as the straining removes the irritating husks of the grain. Gruel appears to have been a favorite morning-beverage some two hundred years ago, for water-gruel was advertised as always ready at the Marine coffee-house in Birch Lane, Cornhill, every morning from six to eleven

o'clock, where as much as four to five gallons were drunk daily. This is a more innocent "pick-me-up" than that which finds favor with our city-men of the present day.

In the north of Germany *oatmeal-soup* mixed with fruit is a favorite dish, the fruit greatly augmenting the nutritious value of the oatmeal. In Ireland oatmeal is mixed with Indian corn-meal, and then stirred into boiling water, forming a compound called *stirabout*; whey and milk are often used instead of water. The mixture should be well boiled to avoid flatulence.

In Scotland the oatmeal-husks (called seeds) are sometimes steeped in water for a few days, until they become rather sour, like stale brewers' grains. When afterwards squeezed out they produce a liquid which, when boiled to the consistence of gruel, or thickened with a little oatmeal, makes the food which the Scotch call *flummary*, or *sowans*, and the Welsh *sucan*. It is usually eaten with milk. If it be boiled still more, until it becomes as thick as jelly, it forms what the Welsh call *budrum*, or *brochan*.

Oatmeal in all its forms is somewhat laxative, and often causes irritation of the bowels, especially if not sufficiently cooked. There are some persons who cannot take it on account of the acidity and eructation which it causes.

Barley is not so much employed as it used to be in the form of bread. When it is made up, some wheaten flour is mixed with the meal to make it less compact and heavy, more spongy and light. It is, however, less palatable than wheaten bread, less digestible, and is scarcely suitable for weak and disordered stomachs. The best way of using barley-flour is to take it in the form of gruel or *stirabout*, made by gradually sprinkling or stirring the meal into boiling water. The nutritive value of barley-meal is somewhat inferior to that of

wheaten flour; but as the meal is cheaper than flour it is more economical to use it: in fact, it is almost the cheapest article of diet.

Scotch barley is the grain deprived of its husks. *Pearl-barley* is also the grain deprived of its husks, and rounded and polished by attrition. Both are employed to give consistence to broth. *Patent barley* is pearl-barley ground into flour. *Barley-water* is made from pearl-barley, and forms a slightly nutritive, bland and demulcent drink for invalids. It is made by taking about two ounces of pearl-barley which has been well washed in cold water, and boiling it in a pint and a half of water for half an hour.

Malt is barley changed in process of manufacture, so that a peculiar, active, nitrogenous principle, called *diastase*, is developed, which has the power of converting starch into dextrine and sugar. *An infusion of malt* is made by boiling four tablespoonfuls of ground malt in a pint of water for ten minutes. The liquid is poured off, diluted one-half with milk or given pure. It is very agreeable and nutritious, and is often beneficial in some cases of cholera-infantum, when other things are rejected. Malt is one of the ingredients in Liebig's Food for Infants.

Rye is more like wheat than other cereals, in its fitness for making bread; but it is not so nutritious as wheaten bread, while its color and acidity render it distasteful to those who can obtain the flour of wheat. It possesses laxative properties.

Indian Corn, or *maize*, is not adapted for the manufacture of bread on account of its deficiency in gluten, unless wheat or rye-flour be mixed with it. The meal is cooked by either baking it in cakes or by stirring it into boiling water or boiling milk as with oatmeal, by which a thick porridge is made. It is thus commonly used in

Ireland, with a flavoring of salt, butter or molasses. It is not agreeable to the taste of most persons, as it possesses some degree of harshness; this may, however, be removed by the application of a weak solution of caustic soda. But this treatment renders it less nutritious by the removal of some portion of the nitrogenous elements. Thus prepared, it is sold as *corn-flour*, *Oswego* and *maizena*. The large proportion of fatty matter, nevertheless, renders it very nutritious.

Rice is said to be the food of nearly one-third of the human race. The best comes from Carolina. It is useful as an article of diet, whether whole or ground into flour. It, however, requires the addition of some fat to make up for its deficiency in this ingredient. It should be thoroughly cooked, whether the grains be ground or remain whole. In India, rice is never prepared alone, but always with the addition of a certain pulse which abounds in albuminates; ghee (butter clarified by boiling) is also largely consumed with it. Boiled or baked with milk and egg, as rice-pudding, it forms a substantial meal, and is especially suitable for invalids, as it does not make great demand on the digestive powers. Rice boiled five or six hours forms, on cooling, and after the water has been strained off, a jelly which is soluble in warm milk, and makes a pleasant change of diet. Rice-water is made by washing an ounce of good rice in cold water, then steeping it for three hours in a quart of water kept at a tepid heat, and afterwards boiling it slowly for an hour.

Rice-water is very useful as a drink in all irritable states of the alimentary tract, as in dysentery and diarrhea. Indeed, it has been known to arrest the latter without the employment of any medicinal measures.

Vegetable Food—Passing now to the *products* of the *garden*, Dr. Chambers has classified them according

to the chief purposes they subserve in the animal economy. The place of each plant in the class indicates its average value: for instance, the potato stands first in value for its starch, cabbage as an anti-scorbutic. The classification is useful as indicating what should be eaten or avoided in certain diseased states of the system.

1. *Starchy and Sugary Plants*—Potatoes, yams, chestnuts, beans, peas, Jerusalem artichokes, carrots, parsnips, beets, salsafy, turnips. Each of these is a force-giver, but each may be unsuitable for food in some disordered conditions.

2. *Stimulants*—Asparagus, wild onions, artichokes, strong onions, garlic, aromatic herbs, mustard, cress, and a few other pungent salad materials. These cause increased secretion of saliva and gastric juice, and thus promote the digestion of a larger quantity of food than could be otherwise dissolved.

3. *Anti-scorbutics*—Cabbages, tomatoes, and salad materials in general. These products contribute valuable saline materials to the blood; but they should be quite fresh, or they will cause indigestion, and scrupulously clean, otherwise they will be the instruments of introducing the eggs of worms into the system.

4. *Diluents*—Cabbages, spinach, turnip-tops, winter-greens, cauliflower, sorrel, nettle-tops, or any leaves sufficiently palatable to eat and soft to swallow, and which are green when boiled. The chief use of these diluents—or perhaps they might as appropriately be called disintegrants—appears to be, not to contribute actual nutriment, but, by being mixed up in the stomach with nitrogenous food, to render it more thoroughly open to the action of the digestive secretions, and more easily available for absorption by the intestinal glands. Like gelatine, though apparently not nutritious in themselves, they make other things nutritious.

Peas are consumed while yet young, without their pods, and form a very delicate and nutritious vegetable if they are so young that the skins crack in boiling and are quite tender. Unbroken skins become harder the longer they are boiled, and are very indigestible. Old peas should be treated as dried peas—soaked, stewed and crushed—if they are to be rendered palatable and digestible. Dried peas, split peas, without skins, if well boiled, are excellent food for healthy persons. *Peas-bannocks*, or cakes made from the meal, are a favorite food, with fat and milk, in the southeast of Scotland; and in England peas, with fat bacon or butter, have been eaten for generations.

Nuts—The *walnut* contains oil; so also does the *Hazel-nut*, whether the variety be the *filbert*, *cob-nut* or *Barcelona-nut*; the *Brazil-nut* is very rich in oil; the *cocoanut* contains about 70 per cent. of a fixed fat, which is extracted and used under the name of cocoanut oil or butter. All these nuts are highly nutritious on account of the albumen and casein they contain, but they are not easily digested on account of the large proportion of fat. They should be taken in extreme moderation, at a time when the stomach has had some rest, and can employ its powers for their digestion. They should be very thoroughly masticated, so that the saliva may act freely throughout the mass; they may then be taken by those whose digestion is good, but must be avoided by invalids. Under exposure to air the constituent oil is liable to turn rancid.

Almonds are of two kinds. The *bitter* almond contains elements which, when brought into contact with water, develops poisonous products, and consequently, when employed for flavoring puddings, cakes and liqueurs, has proved injurious, and even fatal. The *sweet* almond is not injurious. On account of its irri-

tating qualities the skin should be removed by soaking the almond in warm water before the kernel is eaten; this may then be taken by those whose digestion is good. If it be baked for a little while it may be easily broken and pulverized, and thus rendered more digestible. Dr. Pavy has suggested that biscuits be made of almond-flour for use in diabetes, and indeed, where they can be borne, in all cases of defective nutrition, on account of its richness in nitrogenous and fatty elements.

Starch is also an important alimentary product, found only in the vegetable kingdom; but there it is very extensively distributed. As an article of diet it is useful in the formation of fat and force; but is devoid of nitrogen. It has this recommendation, that it allays the sense of emptiness and hunger when other food cannot be taken. But the granules are covered with a hard envelope which renders them difficult of digestion, unless the envelope be burst by the action of heat. If then they be eaten uncooked, they pass through the canal without yielding up their nutritive properties. If, however, they be boiled, the envelopes are ruptured, and the contents are easily transformed, either by the saliva or the intestinal juices, into sugar, and are thus easily assimilated through the mucous membranes. All preparations of starch should therefore be cooked before they are eaten, by stirring them into boiling water or boiling milk, and then letting them simmer for a few minutes. If they be prepared with milk instead of water, wine should not be added.

Sago, prepared from the pith of a species of palm, is useful for thickening soups, and making light puddings, which with the addition of milk form a light and easily digested diet for the invalid.

Tapioca, prepared from the root of the cassava, is similarly employed and similarly used.

Tapioca-jelly makes an allowable and pleasant dish. The tapioca should be soaked in cold water for several hours, and then cooked until perfectly clear, adding more water if necessary. When done, sweeten to taste and flavor with vanilla, lemon or wine, and when cold eat plain or with cream.

Arrow-root possesses little nutritive value and little sustaining power: its chief merit is that it is bland and easily taken; but some other alimentary substance should be added to it. The true arrow-roots (Bermuda, Jamaica and West-Indian) are to be preferred for the sick-room, for they will often remain on the stomach of an invalid when the others will be rejected.

Potatoes—We come now to a class of vegetable products containing a large proportion of water, which makes them succulent: of these the potato takes the lead in importance and dietetic value.

Potatoes are an agreeable and wholesome article of food, easily cultivated, easily kept, easily cooked, not always easily digested, but of the taste for which one is not soon tired. They also have the recommendation of being anti-scorbutic. In this quality cabbages take the first place, and all succulent vegetables share, but potatoes have been proved repeatedly to produce a most beneficial effect in the prevention and cure of scurvy.

The proportion of starchy constituents is large, and of nitrogenous elements small, so that it is desirable to eat with them some other food to supply the deficiency in nitrogen, such as meat, fish, bacon, buttermilk, etc., in order that a fully nutritious diet may be supplied. When cooked the heat employed coagulates the albumen, the starch-granules absorb the watery particles, swell and burst their cells, and thus the mass is broken down into a loose, floury or mealy condition. If, however, the absorption is incomplete and the rupture of cells

imperfect, the mass remains coherent, firm and waxy. In the former state the potato may be easily digested, in the latter it is difficult of digestion. Young potatoes being close and firm are very indigestible, but old, waxy potatoes are more so.

Preparation for the Table—The best method of cooking potatoes, certainly from September to June, is by steaming them in the skin; by this process heat penetrates everywhere, and there is no loss of material and salts. For this purpose, a saucepan, one-fourth full of boiling water, is required, into which a closely fitting steamer is placed, containing the potatoes, the latter being so packed as to allow a free passage for the steam. If the potatoes are boiled, the skins should not be previously removed, or a large amount of salts will pass out. The addition of common table-salt to the water is advantageous, for it helps to retain the natural salts. The boiling should be thorough, otherwise the starchy grains are undigested. From twenty-five to thirty-five minutes is the time usually required, according to the kind of potato boiled. Potatoes should be served up immediately they are cooked, and not, as is too frequently the case, placed over the fire at half-past eleven or twelve for a one-o'clock dinner. Towards the end of the season, old potatoes are improved by being peeled overnight and put into cold water, by which process they regain, in a measure, their natural color and consistency. Potatoes are rendered more digestible by being finely mashed, and mixed with a little red gravy as it runs from the cut surface of a joint.

Roasted potatoes are more nutritious than boiled. *Potato-soup* is rendered more nutritious by the addition of peas, and potato-food by being mixed with cheese and curds.

Potatoes are spoiled by germination or growing, and

by frost: severe frost almost invariably kills them, so that when the thaw comes the process of putrefaction immediately sets in.

Choice of Potatoes—They should be large and firm to the touch, should present no evidence of disease or fungi, should not have been exposed to frost, neither should they be germinating or growing; for then the starch is undergoing a saccharine change. Further, when cooked they should not be close, watery or waxy, but floury or mealy.

The *Jerusalem-artichoke* is somewhat similar to the potato, but does not become mealy when boiled. It is devoid of starch, but contains a considerable proportion of sugar; it therefore does not become brittle, but is sweeter than the potato. It is not largely used as an article of diet, though it has the recommendation that it can be kept in the ground through the winter, and dug up when required, without injury from frost. It is not very nutritious, nor very digestible; it should therefore only be eaten as an occasional change on account of the flavor.

Carrots make a pleasant change in one's vegetable fare, but are apt in some cases to produce flatulence. The less they have of the central, yellow part, and the more of the outer, red part, the better. Carrot-pap, prepared from the *juice* of the root without the indigestible fibre, has been recommended for scrofulous children and adult dyspeptics.

The *parsnip* possesses the same general characters as the carrot. Being sweet, it is well adapted for children's use, but should be avoided when old and stringy.

The *turnip* contains a very large proportion of water (91 per cent. according to Dr. Letheby), and hence is of little nutritive value, and is more difficult of digestion than carrots or parsnips. Young turnip-tops gathered in the spring are wholesome.

Radishes are somewhat like the turnip, but being usually eaten raw, are often indigestible.

Greens—We now turn to another class of vegetables. The leaves, shoots and stems of some plants are valuable for food, chiefly on account of the salts they contain, and because they give variety to the diet. They should generally be grown quickly, in order that woody fibre may be less abundantly formed, and without much light, that the characteristic properties may not be unduly developed. Green vegetables are always more or less relaxing. They are consequently useful when the bowels are constipated, and must be altogether avoided when diarrhea or dysentery is present. They possess a high anti-scorbutic value. In all cases they should be eaten as fresh as possible, for with every hour's delay after they have ceased to grow they become less digestible. When sprinkled with water after they have been kept, they may look well, but never regain their early freshness; hence they often ferment in the stomach and cause flatulence.

Cabbages, cauliflower, etc., are of the same general character; but as the proportion of water in their composition is very large, they are not very nutritive. Moreover they are not easy of digestion, and therefore not suitable for dyspeptics, while the large proportion of sulphur they contain causes disagreeable flatulence.

Cabbage, however, is a most valuable anti-scorbutic, but if fermentation has begun its virtue is destroyed. Bleeding of the gums and land-scurvy are benefited by it. The best sorts of cabbage are the old, white garden-variety and the summer cauliflower. They should be soft but crisp before being cooked.

Spinach is wholesome, and somewhat laxative.

Rhubarb is eaten as a fruit rather than as a vegetable, but must be cooked in order to render it eatable. As it

contains oxalate of lime, it should be avoided by those who are subject to gravel.

Celery is sweet and mild when cultivated, but on account of the quantity of woody fibre in its composition is indigestible when eaten raw. If so eaten, it should be with a light lunch of bread and cheese, not after a full meal. Stewed in beef-gravy it makes a delicious and wholesome soup.

The *green artichoke*, which is the flower-head of a species of thistle gathered before the flower expands, is a delicate vegetable, and when boiled till it is quite soft, may be eaten freely by invalids.

The *asparagus* is a young shoot gathered before it expands. It should be eaten as soon as possible after being cut, and is then most wholesome. The greenest heads are to be preferred, as they contain the largest amount of the peculiar principles of the plant. There need be no fear that they will prove injurious to the kidneys, as some persons suppose. Slight cases of rheumatism have been cured by eating freely of this plant, and chronic cases of rheumatic gout and gravel much relieved.

Onions are very wholesome vegetables, whether eaten raw or stewed, or roasted; they are too strong, however, for invalids when they have not been cooked, as they possess strongly irritant and stimulating properties. They are sufficiently mild and sweet for ordinary diet, especially if they are boiled in two or three waters. Onions act as anti-scorbutics, and to some as a laxative.

Leeks should be white, and have little smell; they are then soft and good, and very digestible.

Lettuce is agreeable, cooling and digestible as a salad; the juice is mildly sleep-inducing.

Water-cress and *mustard* form wholesome salad.

Cucumber, eaten raw and quite fresh, may be taken.

with bread and cheese as a light lunch, but should not follow a more substantial meal, for it is indigestible, and apt to disagree with many persons. Stewed, it is light and wholesome.

Squashes and *pumpkins* contain much water but little nutriment: they are easily digested.

Mushrooms, which are generally eaten after being stewed, sometimes disagree with those who take them; nevertheless to most persons they are not injurious, though by dyspeptics they are best avoided, for sometimes they cause colic, vomiting and purging. Forced mushrooms are sometimes tough and indigestible: those grown in open pastures are by far the best. It is not always easy to distinguish mushrooms from poisonous fungi, so that some caution is desirable in gathering and preparing them for food.

A meadow mushroom should peel easily, and it should be of a clean, pink color inside, like a baby's hand, and have a frill or "curtain" (as botanists call it), attached to the stalk. When the gills are brown they are growing old and dry, and losing their nutritive qualities.

Vegetable broths, made of any of the ordinary market-vegetables in season by boiling and straining, are useful as substitutes for animal foods when the latter are not allowed. Out-of-season, dried vegetables may sometimes answer the purpose. In preparation of these, and in all other cookery for the sick, as far as possible, non-metallic surfaces only should be allowed to come in contact with the materials employed. A simple method is to put them into an ordinary basin or bowl, placing this in a saucepan of water and covering the basin with a saucer. The water in the saucepan is made to boil, and thereby the food is duly cooked.

Fruits are agreeable and refreshing, but as their proportion of water is high and of nitrogenous matter low,

they are of little nutritive value. When taken in moderation they are very wholesome, counteracting the unhealthy condition which attends a diet of dried and salted provisions, and promoting a somewhat relaxed state of the bowels. Fruit should not be taken, as it usually is, after a substantial dinner. It is best eaten in the morning as a lunch, with stale bread and a little water. When consumed in large quantities fruit is injurious; particularly if it be unripe or over-ripe—in the former case by the action of the fruit-acids, in the latter by fermentation and decomposition. Fruit is very beneficial to gouty and rheumatic subjects, because the alkaline vegetable salts become decomposed in the system and diminish the acidity of the urine. But patients should avoid acid fruits, if there is diarrhea present to contra-indicate their use. The seeds of all fruits and vegetables, if swallowed, prove more or less irritating to the intestines, and in inflamed or ulcerated conditions may do irreparable mischief.

Apples when raw are not easily digested; when cooked are light, digestible and wholesome. Roasted apples are somewhat laxative, and may be eaten to counteract constipation. The skin and core should be rejected.

Pears when ripe are more digestible than apples, but as they decay sooner, they are more likely to produce derangement of the bowels. If they are sound, juicy and soluble, they may generally be taken without danger.

The *orange* is one of the most agreeable and useful fruits for the sick-room; it is exceedingly grateful and refreshing, and is less likely to cause disorder than most other fruits. A heavy orange, with a fine thin rind, is usually the most juicy and the best adapted for the invalid. Old oranges, with many seeds in them, are not so valuable.

The *lemon* is too acid to be eaten alone, except that its juice is grateful, refreshing and beneficial in rheumatic affections; but in the form of lemonade it makes a cooling and wholesome drink for all occasions. Lemon-juice is very valuable as an anti-scorbutic; so also is lime-juice. Lemon is elsewhere recommended as an addition to tea.

Plums are less wholesome than most other fruits, though this objection to them is lessened by cooking them. They produce colic and diarrhea, and are employed occasionally to promote relaxation in cases of constipation of the bowels. *Cherries* also, when unripe or over-ripe, disorder the bowels.

Peaches, *nectarines* and *apricots* are luscious fruits, when quite ripe, yielding a delicious pulp for the refreshment of the invalid; the skin should be rejected.

Grapes are most refreshing, wholesome and nutritious in the sick-room, when ripe and not decayed, the skins and seeds being rejected. They may be safely taken, and if eaten freely are somewhat diuretic and laxative.

Raisins, which are dried grapes, contain more sugar and less acid than ripe grapes; they are consequently more nutritious, but are less cooling to the parched mouth of a feverish patient. If eaten too freely, especially if the skins or seeds be swallowed, they are apt to disorder the stomach. Muscatels are the best, because they have been allowed to dry on the vine. The quality of raisins is determined by their softness and plumpness, and the absence of mites. If these be present, the quantity of sugar, which constitutes the value of the fruit, is lessened, and instead thereof we have feculent remains and carbonic acid. *Currants* are also dried grapes, and are so indigestible that they generally pass through the alimentary canal without any change; this is because the waxy, water-proof skins are usually unbroken.

Gooseberries and *currants* (red, black and white) are wholesome, cooling, useful fruits; refreshing and laxative in the sick-room; but together with *raspberries* are generally interdicted in acute diseases. The *cranberry*, *barberry*, *bilberry*, and *elder-berry* are too acid to be eaten raw; the first three are made into preserves, the last into wine.

The *strawberry* is one of the most delicate, luscious and refreshing of summer fruits, and may as a rule be taken by invalids excepts when diarrhea is present. The *raspberry* too is agreeable and wholesome. So also is the *blackberry* when in fine condition. The *mulberry* is more acid, and very grateful to fever patients; but the juice only should be taken.

The *melon* is a rich, delicious fruit, but not unfrequently disagrees with those whose digestive powers are weak. The *pine-apple* should not be eaten by invalids; the pulp should be rejected if the juice be taken.

The *fig* is sweet and nourishing: its pulp may be eaten by invalids, but if eaten too freely will irritate and disorder the bowels: the skin is rather indigestible. *Tamarinds* are cooling and laxative, and when mixed with milk to produce tamarind-whey, form an agreeable drink in fevers.

Of *olives* the so-called Spanish are the best, being soft, pulpy and oily. *Olive-oil* is regarded by M. St. Cyr as the most digestible of fatty foods, even more so than fresh butter; it should, however, be thoroughly good, pale, clear and free from rancid smell, to justify this estimate. Lucca-oil with its nutty odor is the best.

Gum is the solidified juice which exudes through the bark of trees. Gum-Arabic, which flows from the acacia in Arabia, Egypt, etc., is what is usually employed in the preparation of drinks. In its preparation clear gum should be selected, washed in cold water, and then

slowly dissolved in cold water. When made of the powdered article or with hot water the flavor is less agreeable. When flavored with a little sugar it is a refreshing and nourishing beverage for invalids. Mucilage differs from gum-water in containing a larger proportion of the gum. It is admirably adapted for use in inflammation of the mucous membranes generally, as in catarrh, bronchitis, etc.

Sugar is an important alimentary product, chiefly found in the vegetable kingdom. It also exists in the animal economy, and is there known as the sugar of milk. The vegetable sugar exists in two varieties—cane-sugar and grape-sugar. Cane-sugar is very sweet, and crystalizes easily; and though usually extracted from the cane, is also obtained from the beet, and is found in other vegetable forms. Grape-sugar, or glucose, is inferior in sweetness and crystallizing power, and abounds in grapes and other fruits and vegetables. It may also be obtained by chemical change from cane-sugar, starch, gum, etc. It is chiefly used to adulterate cane-sugar. Sugar is valuable from a dietetic point of view, not only as rendering more palatable many articles of food, but also as productive of fat and force. As it is readily dissolved and diffused, it requires no preliminary digestion in order that it may be absorbed through the mucous membranes. In ordinary cases it does not, therefore, occasion any gastric derangement; but when taken in excess, or by some dyspeptics, it is liable to undergo acid fermentation, and occasion acidity and flatulence. Sugar-of-milk, however, does not undergo this change. Coarse, brown sugar always contains dirt, sand, and occasionally mites; indeed, from handling it grocers get *psoriasis palmarum*, or grocer's itch, a very troublesome skin-affection. Loaf-sugar and sugar-candy are the most free from adulteration. It should be borne in mind that

sweetened food is apt soon to cloy the appetite of invalids, and that attention must be directed to what is savory to secure agreeable change.

Molasses is the uncrystallized residue drained from refined and raw sugar.

Golden syrup is *molasses* purified by being reboiled and filtered through animal charcoal. If largely taken, these products are laxative. They are appropriately taken with all kinds of farinaceous food, such as bread-pudding, porridge, etc.

Honey is a concentrated sugar mixed with odorous, coloring, gummy and waxy matters, gathered from flowers by the bee for its own consumption, but undergoing some modification by the secretions of the insect. It is of the same dietetic value as sugar, is slightly laxative, and is often used in the sick-room as a demulcent and emollient.

Manna is the solidified juice of some species of ash, containing a peculiar saccharine principle—sweet, odorless, crystallizable, white—but differing from sugar in that it does not undergo alcoholic fermentation when brought into contact with yeast. It is chiefly used as a mild and safe laxative, but it is also nutritive.

Condiments—Such condiments as vinegar, salt and pepper make food more tempting to the palate and stimulate a flagging appetite, and usually create an unnatural one. The excessive use of them promotes indigestion, and are of but little value, salt excepted. The constant presence of this mineral in the secretions, and the necessity for it in due proportions in the blood, indicate the importance of a proper supply with the food. This is evident in the instinctive desire of animals, and in our own craving for it when it is not supplied in sufficient quantity. It is essential to the maintenance of health, and must not be forgotten in the diet of the invalid.

LIQUIDS.

Water—There is no beverage so wholesome, or, to the unperverted taste, so agreeable, as pure water, the natural drink of man, which may always be taken in moderation when thirst is present. In some form or other it is essential to life. Water is requisite in many functions of the animal economy; for example, it favors digestion by promoting the solution of our food, and acts as a vehicle to convey the more dense and less fluid substances from the stomach to their destination in the body. It gives fluidity to the blood, holding in suspension, or solution the red globules, fibrin, albumen, and all the various substances which enter into the different structures; for the whole body is formed from the blood. Not only the soft parts of the body, but even the very materials of the bones, have at one time flowed in the current of the blood. Water enters into the composition of the tissues of the body, lubricates those tissues, and forms a necessary part of our bodily structure. It equalizes the temperature of the body by evaporation, and regulates the chemical changes resulting from nutrition and decay. It is the vehicle for the removal of effete products from the body; increased water-drinking causes increased flow of urine, and thereby facilitates the excretion of solid particles. In this way some of the impurities which cause gout, gravel, etc., may be eliminated. To prove how essential water is for the development and maintenance of the animal body, we may here state that a calculation has been made which shows that a human body, weighing

154 lbs., contains 111 lbs. of water. A man of adult age, average size and ordinary employment, requires from three to four pints of liquid to drink in the twenty-four hours. Such facts suggest the necessity for obtaining water pure, and taking it unpolluted by animal and mineral ingredients. Notwithstanding, where *strict chemical purity* and an *unlimited supply* of water cannot both be secured, the latter should be regarded as of the greater importance.

It has been supposed that water should not be taken with meals, lest it should lessen the digestive power of the gastric juice by diluting it. But this is an error. The probability is that as fluid is rapidly absorbed, what is taken at the meal facilitates the secretion of the gastric juice at the time it is required. An excessive quantity might prove prejudicial. But where persons are exposed to great heat, and are obliged to work with violent exercise, large quantities must be taken; and then nothing is better than simple water, the purer and softer the better, unless a little oatmeal be added.

Water is the same substance, from whatever source it is derived, whether from seas, lakes or rivers. When allusion is made to differences between waters, it is really to various bodies mingled with the water. Thus a water-analysis really means an analysis of the foreign bodies held in suspension by the water. These foreign matters are exceedingly small in all drinking-waters, but in sea-water there is about one part of solid substance to thirty parts of water. In common waters there are only about 16 to 20 grains in 70,000 grains, or a gallon of water. Common salt is dissolved in three or four times its quantity of water; but carbonate of lime is not dissolved in less than 20,000 times its quantity. Salt occurs more or less in every drinking water, and is undoubtedly wholesome; but inasmuch as sewage

is highly charged with salt, any water in which there is an excess is to be regarded with very great suspicion. Many of the worst wells in cities have been resorted to by the public and highly valued on account of their slight flavor of salt; the water was, however, prejudicial to health. Thirty grains of salt to a gallon of water improve it considerably for drinking purposes. The excellencies of water are purity, softness, the presence of air and carbonic acid to give freshness, and of salt to make it tasteless, and to prevent its ready contamination by lead.

Water is sometimes *soft* and sometimes *hard*, according to the appearance or non-appearance of soap-bubbles when washing. Generally speaking, the difference depends upon the carbonate of lime held in solution; until this is exhausted soap-bubbles or lather cannot be produced. There are degrees of hardness; thus a water is said to have six degrees when a gallon consumes as much soap as will combine with six grains of carbonate of lime. Hardness is due to the presence of magnesia as well as lime. Carbonate of lime in small proportion in drinking-water is not injurious to most persons. Indeed, there is evidence to show that it is assimilated, and aids in the formation of the phosphate of lime in bones; it is therefore useful for rickety children. Hard waters, however, are not only unpleasant in use and harsh to the skin, but have a tendency to dry up the mucous membranes just as they do the skin; hence they may arrest the digestion and cause gout, stone, gravel and goiter in districts where they are habitually taken. Persons may thus suffer from drinking the waters of a district; and on the other hand, if they have been accustomed to use a water which contains a large proportion of carbonate of lime, they may lose their health by drinking soft water. Attention should therefore be

paid to the quality of the water of a district by persons selecting a residence: they may go where the water would be prejudicial because it is too hard, or because it is too soft; and they may relieve their ailments simply by removing to a neighborhood where they can drink a different water.

Water now and then contains some metal—such as iron, lead and copper. It ought not to be drunk if there be more than one-tenth of a grain of iron or copper in a gallon of water. A very minute proportion of lead is injurious.

Rain-water is soft, and naturally contains the smallest amount of solid impurity; but unless carefully collected in specially clean vessels in the open country, and then covered, it is likely to become impure. If, however, the atmosphere be impregnated with smoke from crowded dwellings or fumes from chemical and other factories, it cannot be relied on for purity. If, however, it fall through a pure atmosphere it may be contaminated with what has accumulated on housetops and in water-pipes; and if collected from the roofs of houses and stored in underground tanks it is often polluted to a dangerous extent. It is therefore rarely in a fit state for drinking, though it may be very useful for domestic purposes. Its freedom from earthy salts, moreover, renders it liable to contamination from leaden pipes if it should be brought through them. But so beneficial are its effects upon the skin, that an exclusive use of rain-water for washing would greatly modify, if not entirely remove many skin-diseases.

Spring-water is rain-water which has percolated through the earth, and acquired saline elements from the soil through which it has passed. Chalybeate and other mineral waters are thus charged, and to such a degree as to render them unsuitable for ordinary drink-

ing or culinary purposes. They should be taken only when prescribed as medical agents.

It is a fallacy to suppose that surface-well water is purer than that obtained from deep wells, because it is more sparkling and often cooler and clearer. The sparkling of these waters is due to the presence of carbonic-acid gas, and that acid is derived from the decomposition of animal and vegetable substances.

Well-water is collected spring-water. If the well be deep, and there is no leakage into it from some higher layer of soil, or from some neighboring decaying animal or vegetable matters, it usually affords a safe and wholesome drink. Some of the purest water is obtained from deep wells, bored through the earth and clay down to the chalk. Of the different varieties of drinkable water, the best for dietetic purposes are deep spring and well-waters. Superficial well-water, however clear, bright and tasteless, should be regarded with suspicion, for it is frequently saturated with leakage or soakage from privies, drains or cesspools, often covered up and unknown. Water collected from uncultivated land and allowed to subside in reservoirs, or filtered through sand, constitutes good water for domestic purposes; but water collected from the surface or drains of cultivated land is always more or less polluted with organic matter, even after subsidence in lakes or reservoirs, and hence is not good for drinking-purposes, unless it be thoroughly filtered before being used.

River-water is partly rain-water and partly spring-water, subject to impurity from the soil, and from decaying vegetable and animal matters, and therefore only useful to a limited extent. The flow of the stream and the absorbing influence of vegetation tend to purify the water by oxydation.

Distilled water is pure, but insipid from its lack of air;

its softness makes it easily susceptible to the action of lead; but it is excellent for making tea or other infusions.

Water may be impure from an excess of saline ingredients, from the presence of organic impurities, or from contamination with lead. The chief danger to health is from organic impurity. Cholera and typhoid fever have been traced to drinking impure water. Lead contaminates pure water; but if there be a moderate quantity of earthy salts in the water, they form an insoluble incrustation in the pipes, which is protective.

It is most important that the receptacles for water—tanks and cisterns—should be carefully examined and thoroughly cleansed at regular seasons, especially after a time of drought and before the approach of winter. Much mischief is often done and disease induced, by allowing cisterns to fill up after they have been dry or the water in them low; the quantity of sediment and filth is frequently very great, and if not carefully removed becomes mingled with every fresh influx of water, and thus diphtheria, typhoid fever and other blood-diseases may be set up. The deleterious consequences that ensue from neglect of this duty are often alarming, although the source of the evil be unsuspected. Boiling water removes some of the salts from hard water, and destroys the activity of any organic impurities. Filtration, especially through charcoal, also purifies the water by removing organic matters; but a filter, to be effective, must be frequently cleansed. The most ready test of the presence of organic matter is to put a drop of Condyl's ozonized water into a tumbler of the water to be tested: if the tint does not remain the water is impure.

Water may be administered to patients at any temperature that may be desired, but if very cold the quantity should be very small, for in some diseases it is undesirable to lower the temperature of the internal organs.

If the stomach is in such an irritable state that no liquid can be tolerated, the thirst may be partially allayed by sucking small pieces of *ice*; but where ice is substituted for water its use must be constant, because ice tends to increase thirst rather than allay it; hence the desire for drink is imperfectly satisfied; so that where water can be borne ice should not be given. Moreover, the reactionary effects of its continued use are not beneficial. When ice cannot be procured, water may be cooled in a porous water-jar.

Ice is a valuable medical agent, and is now extensively used both internally and externally, chiefly to check hemorrhage, to moderate inflammation, and to soothe uneasy sensations in febrile and other disorders. In *inflammation of the brain* or its membranes, and in the *severe headache* of the early stages of acute fevers, it is most useful, applied in small pieces, enclosed in a bladder or India-rubber bag, in the form of a cap fitted to the head

To relieve the severe *pain* and *vomiting* in cases of *ulcer* or *cancer* of the stomach, a bag containing small fragments of ice should be laid on the stomach.

In *inflammation of the tonsils*, the *sore-throat* of scarlatina and other eruptive fevers, and in *diphtheria*, the use of ice relieves pain and arrests inflammation. Ice also modifies the secretions from the throat, and so obviates frequent painful efforts to detach the mucus from the crypts and follicles of the tonsils. For these purposes small pieces should be sucked repeatedly.

In *hemorrhages*, ice is extremely valuable. In *bleeding* from the *mouth*, *throat* or *nostrils*, ice applied directly to the bleeding vessels or to the surface forms an efficient means of relief. When hemorrhage comes from the *stomach* or *lungs* ice should be repeatedly *swallowed* in small pieces, for so taken it will help to contract the leaking blood-vessels.

The use of ice internally should be avoided after the fatigue brought on by long-continued or violent exercise: it is then too lowering to the system; and instead of allowing a patient to cool gradually it gives a sudden check to animal heat and to perspiration. Drinking iced water under these conditions is even still more hurtful to the system.

“To allay *local inflammation* or check hemorrhages from the surface, ice broken into small pieces should be enclosed in a bladder or thin India-rubber bag. When one-third filled, the air should be squeezed out of the bag, which should then be tied at its mouth on an inserted cork, so large and long as to bear the tight pressure of the twine. The bag may then be made into almost any shape, and fitted to the irregularities of the body.”—[*Ringer*.

Ice is forbidden in conditions such as the following: *Old age*, especially in feeble patients; *apoplexy* and *insensibility* in persons with a feeble pulse; *advanced* stages of disease; *extreme feebleness*. In such cases the great sedative power of ice might overwhelm the patient, and stop the action of the enfeebled heart. It is also advisable to avoid too great a shock to the system in any case.

Tea is a very favorite beverage, but it affords no direct nutriment; the sugar and cream or milk usually taken with it yield the nutritious elements. Though yielding no absolute aliment it retards the waste of tissues. When consumed in large quantities, tea acts prejudicially on the nervous system. It then promotes nervous agitation, muscular tremors, prostration and palpitation: it may also cause nausea, derangement of the stomach and abdominal pains. Green tea, even when genuine, is stronger than black, possesses more active properties, and is therefore to be used with more

caution. Both kinds, when adulterated, are more or less injurious.

Tea is hurtful, 1. To those of spare habit and the under-fed. 2. To the young who are provided with the full amount of vital activity. 3. To those who perspire too freely. 4. Early in the day, for it is then apt to increase tissue-waste. 5. To nervous or hysterical subjects, or to those whose hearts' action is very weak.

On the other hand, it is frequently not injurious, 1. For the over-fed and sedentary, for they require increased vital action. 2. For the old, whose vital activity is deficient. 3. For those who have a non-perspiring skin. 4. During the after part of the day when the system is full of partly digested food, for then the process of digestion requires to be quickened. 5. During excessive heat, in order to relax the skin and relieve internal congestion. 6. For those whose nervous systems are firmly braced up.

As commonly prepared, tea is often the cause of much dyspepsia, particularly when drunk in excessive quantities, or too frequently; that is, as a rule, more than once a day. In some nervous and gastric disorders, tea and other hot beverages are better discontinued, at least for a time. In this way intractable cases have often been cured. Dyspeptics, suffering from flatulent indigestion, should take tea in very moderate quantities only, as an excess of fluid increases the gaseous distention of the abdomen. Feeble patients often drink tea at every meal, and much ill health is the consequence. When tea causes loss of appetite, palpitation of the heart, mental excitement or sleeplessness, obviously its use should be relinquished. Tea should never be given to children, even though largely diluted. The common practice of adding a small quantity to milk-and-water begets a relish for it, leading to its use at an age

when the nervous and muscular systems require no such aid.

Tea taken with animal food—"tea-dinners," or "meat-teas," as they are called—is more liable to produce indigestion than when the meal consists chiefly of bread and butter.

In the preparation of tea three principles are extracted: one aromatic (*oil*), another nitrogenous (*theine*), the other astringent and bitter (*tannin*). The last, the cause of gastric disorder, is only given off after prolonged infusion; whereas the aromatic oil and theine are completely extracted in about two minutes. Hence to make tea, especially for the dyspeptic, it should be made by pouring *boiling* water (not water that *has* boiled) on the leaves, and allowing it to stand for two minutes. It may then be poured off into a heated teapot, so as to separate it from the leaves. Thus prepared, tea is not so likely to cause flatulence; but it is less economic than the ordinary method, much more tea being required to give flavor. If the tea be good the infusion will be fragrant, not very deep in color, not harsh or bitter to the taste. The leaves should not be boiled, otherwise the peculiar, volatile, aromatic principle is dissipated; nor, for the same reason, should the infusion stand long: in this case also too much roughness and bitterness are added to the flavor by the extraction of tannin. This tannin, though it makes the tea look strong, is worse than useless, inasmuch as it renders the food taken with the tea insoluble and indigestible. The finest teas color the water the least. In an ordinary infusion the first cup of tea is also the best, having more of the choice flavor and aroma, and less of the astringency and color. River-water makes the best tea: soft water is to be preferred to hard; but soda should not be used, for it only extracts the astringent tannin. The water should only boil once,

immediately before using it, and not for hours, as is sometimes the case: the teapot should be quite *dry*, as well as hot, when the leaves are put into it, and the infusion, as before stated, not allowed to exceed two minutes.

Teapots that retain the heat are better than those that allow it to pass off readily; hence black earthenware teapots should not be used: white glazed earthenware or porcelain, are suitable; but brightly polished silver teapots are the best, for they radiate much less heat than any other material.

The Chinese drink their tea without any admixture; the Russians add lemon-juice: the English, sugar and cream or milk.

The use of sugar in tea—Except in small quantity, tea should be given up by persons who have a tendency to become corpulent. According to some tastes, the flavor of tea is improved by substituting lemon for cream or milk—pouring out the hot tea over a slice of lemon cut with the rind upon it. Besides being more palatable, the lemon-juice more effectually allays thirst, and is especially valuable at those seasons of the year when fruits and fresh vegetables are not generally to be obtained.

“The best tea is that which is pleasantest to the taste of the educated customer, and which contains most of the characteristic sedative principles. The sedative principles in the leaf consist of an essential oil, which may be smelt strongest in the finest teas, weakest in the inferior sorts, entirely absent in fictitious teas, and of the alkaloid theine, which may be demonstrated by heating some tea, dry, in a silver pot, when the salt will appear as a white bloom on the metal. If there is any bouquet at all, or any theine at all, in the specimen examined, it is worth something.

“The shortest way to test the comparative value of different specimens is to put a teaspoonful of each in one of the little china teapots or cups with covers, here used as ornaments, but originally intended for this very purpose, which has been previously made quite hot; shake the tea about in the hot pot a few seconds and then pour on, quite boiling, a small half-cup of water on each. Cover them up quickly and let them stand by the fire about a minute. Taste them immediately, without milk or sugar, and choose that which has most aroma.”—[*Dr. Chambers*.

Coffee contains the same principle as tea, and hence has an analogous influence on the system. It is, however, more heating and stimulating, heavier and more oppressive to the digestive organs, and decidedly increases the force and frequency of the pulse. Its effect upon the mental faculties, quickening their energies and causing wakefulness, is not so marked as in the use of tea. It, however, relieves hunger and fatigue, and thus enables soldiers on heavy marches to undergo arduous exertion: it appears to have a staying power, lessening the amount of waste, and thus economizing other food. It is laxative to some and constipating to others, and is serviceable in warming the body in cold weather: it is also cooling in warm weather by stimulating the action of the skin, though not so much so as tea. It has been found beneficial to those weary from traveling in the heat and suffering from want of food, also in diarrhea from overwork with anxiety. If taken in excess it produces feverishness, palpitation, anxiety, deranged vision, headache, wakefulness and nervous excitement. It is employed as a therapeutic by the new school of medicine. It thus relieves headache, soothes nervous excitability, and when given strong counteracts the effect of alcohol and of opium.

For ordinary dietetic purposes it is advantageous to make both an infusion and a decoction. The infusion, made by pouring boiling water on the recently ground coffee, extracts the volatile aromatic principle: the subsequent boiling of what has been infused extracts the remaining ingredients: this decoction, free from grounds, when poured in a boiling state over the freshly ground coffee, takes up the aroma: a decoction can be made of the grounds from which the aromatic principle has thus been removed. Soft water acts as an extractive better than hard. A most important point in making good coffee is to use a *sufficient quantity* of the powder. The minimum that should be allowed is $1\frac{1}{4}$ oz. to a pint of water. The *café noir* of the French contains a larger proportion than this. *Café au lait* consists of a decoction of strong coffee, to which an equal quantity of hot milk is added. It is especially necessary to remember that the full qualities of coffee are not obtained if water is used at a temperature lower than that of the boiling-point. The particles of ground coffee are often found suspended in the liquid, and isinglass or white of egg is sometimes used to refine it. Nothing, however, is required beyond pouring a cupful out and returning it to the pot to effect the necessary clearing.

The addition of boiling milk, in the proportion of one-fourth part, adds greatly to the flavor and virtue of the coffee. Lastly, when coffee is taken daily, an enameled saucepan should be used for this purpose exclusively.

In the choice of coffee, the best is from Guatemala (said to be from Mocha), in the form of small, round beans. In the preparation of it, the best plan is to purchase the beans whole, with the aroma still clinging to them, roast them, grind them and add chicory to taste. When made, the coffee should not be kept boiling or the aromatic oil will be lost. After securing a proper qual-

ity of coffee-beans, the next very important object is to know that the process of *roasting*, on which the agreeable flavor of coffee very much depends, has been properly done. If roasted too little, the oil and burnt-smell constituents are not developed; or, on the other hand, if done too much, they may be destroyed. Dr. E. Lankester states that coffee-beans, when roasted, may have three degrees of shade—reddish-brown, chestnut-brown, and dark-brown; and when a full-flavored coffee is preferred, probably the darkest is the best. After roasting, coffee should not be kept long before it is ground. This is usually done in a coffee-mill; or it is pounded in a mortar. In either case the mill or mortar should be used for no other purpose, as coffee has a marked tendency to absorb other odors, and thus to acquire a flavor not its own.

Lastly, when ground it should be used as soon as possible, for in this state it rapidly gives off its volatile oil. The best method for keeping it for a short time is in a clean, accurately stoppered bottle. Lead or tinfoil covering does not so effectually retain the virtues of the ground coffee.

Chicory yields a drink closely allied in flavor and color to coffee, and is largely used in Europe. In this country it is mixed with coffee, which in the judgment of many persons is thus improved. It contains no alkaloid and has no nutritive value.

Cocoa is distinguished from tea and coffee by the large amount of nutriment it contains; indeed, it may be regarded as a food rather than as a refreshing beverage. Of albuminous matters it contains about twenty per cent., and of fatty matters about fifty per cent., before it has been subjected to the process of manufacture. The essential principle also contains much nitrogen. The fat—known as cocoa butter—has this excellence, that it

does not become rancid after exposure to air. But the large proportion in which this exists renders cocoa heavy and oppressive to a weak stomach, and thus unsuitable to the dyspeptic or bilious. Its very high nutritive power, however, strongly recommends it for general use.

The large amount of fat and albumen it contains renders it a most valuable article of diet, alike for strengthening the frame in a state of debility, and sustaining it under prolonged or excessive exertion. During nursing it is most useful, tending, probably more than any other beverage, to maintain an excellent supply of mother's milk. The combination of nourishing properties which cocoa contains has led to its being compared to milk. Humboldt states that cocoa and maize-cakes are used by travellers in South Africa, and that the large amount of agreeable nourishment in small bulk enables them to carry easily several days' supplies.

"Cocoa nibs" contain the largest amount of nutriment, and are the most free from adulteration of all the forms of cocoa prepared for the market.

DIET FOR DYSPEPSIA, ETC.

Dyspepsia and indigestion are general terms employed to designate various disordered states of the digestive organs, and particularly of the stomach.

Deficient acidity of the gastric juice constitutes one form of indigestion. If the acid be insufficient in quantity, the digestive function is but imperfectly performed, or is arrested entirely.

Excessive acidity is another form. In this, useless acids have been developed by chemical changes in the

food. Hence we have some of the sour eructations which frequently characterize indigestion.

Excessive secretion of mucus also interferes with healthy digestion, for it acts as a ferment, and occasions the production of useless acids.

Torpidity of the gastric glands retards the digestive process. In such cases, the irritation of the food and the stimulus of saliva are insufficient to excite the secretive action of the glands, hence the gastric juice is not poured out for action on the food. Persons who suffer from this form of indigestion frequently resort to spiced and seasoned dishes and condiments, to stimulate the action of the glands: on the other hand, this very torpidity is induced by the needless use of such gastric stimulants.

These different forms of indigestion occasion imperfect *chymification* (the transformation of food into chyme), or afford opportunity for fermentation of the food; for when the vital functions are in abeyance, chemical affinities assert their force and produce morbid changes. Hence arise the various symptoms of dyspepsia.

Then duodenal indigestion, due to derangement of the small intestine, occasions imperfect *chylicification* (the transformation of chyme into chyle).

The various unnatural conditions thus included under the common term dyspepsia, or indigestion, obviously require different medicinal and dietetic treatment. This is also manifest from a consideration of the dietetic errors which are generally the proximate causes of indigestion.

Overloading the Stomach—This may occur in three ways—by excessive quantity, excessive variety and different digestibility of food. The quantity may be so large that it may be difficult for the stomach to deal with it: the variety may be so great that what

should be digested in the small intestine impedes the action of the gastric juice on that which it is specially designed to solve; and the digestibility of different foods may be such that after the more digestible food has passed out, some remains in the stomach, an incubus to its exhausted powers. With reference to these cases it should be remembered that the quantity of gastric juice secreted is limited, and only suffices for the digestion of a moderate quantity of food; that different kinds of food—nitrogenous, starchy and oleaginous—require the exercise of different digestive functions; and that different articles also require different periods of time for their digestion, some being liquefied in an hour and a half, others requiring six or more hours before they are fit for assimilation. The capacity of the stomach is not unlimited, either in size or in function, hence it may be easily overloaded, and its powers so impeded as to cause indigestion. For as soon as the bulk of a meal is digested, it begins at once to pass out of the stomach into the intestine, the other articles going with it whether digested or not; it is therefore obvious that if two descriptions of food are eaten at one time, a portion of the less digestible will pass along with the other into the small intestines and produce distention, irritation and other inconveniences. Nothing is more common, for instance, than for well-to-do persons to eat a hearty meal of fish, flesh, game and pastry, to finish off with raw salad, dressed with oil and eaten with cheese, to say nothing of dessert consisting of dried fruits, almonds and nuts, washed down with sips of different wines! In such a case easily digested and indigestible articles mingled together, overload the stomach, and half-digested materials pass out with the principal portion of the meal, causing disorders which involve discomfort, if not injury. Indeed, it may be remarked, once for all,

that though the human stomach is wonderfully accommodating, retribution is sure to come at last, though perhaps not in the shape of immediate pain or uneasiness in the digestive organs themselves. Many of the complaints incident to persons in comfortable circumstances, though affecting other organs besides the stomach, such as gout, rheumatism, neuralgia, various affections of the skin, etc., can be distinctly traced to imperfect digestion or assimilation of food, though unattended with direct symptoms of dyspepsia.

2. Cooling the Stomach—The natural temperature of the stomach is 98° . The maintenance of this temperature is essential to the discharge of its functions, and to those chemical changes which attend digestion. Whatever lowers it interferes with the secretion of gastric juice, and if the depression amounts to 15° or more, completely stops it. If the secretion be thus arrested, it is not resumed until by the exertion of nervous energy (so much waste) the temperature has again risen to 98° ; and it has been found by experiment that after the stomach has been cooled, say 30° , it requires thirty minutes for the recovery of the temperature, after all the water has been absorbed. Hence we may infer the mischievous consequences of drinking large quantities of cold water or cold beer during a meal, to say nothing of the fashionable custom of eating ices at the termination of dinner. Digestion is thereby immediately arrested, and the food either remains an inert mass in the stomach, or, in weakly individuals and those suffering from dyspepsia, begins to ferment and disengage acids and gases.

3. Stimulating the Stomach—The use of strong stimulants, especially alcoholic drinks, also arrests the secretion of gastric juice, and seems to produce inflammation of the mucous lining of the organ. As a general rule, any quantity of stimulants, whether in the shape of

condiments, strong wine or spirits, delays and protracts the process of digestion, instead of assisting it, as is generally supposed. The reason of this is pretty obvious; for these matters in some cases cause congestion of the glands, which lessens or arrests their secreting power: in other cases they interfere with the solvent chemical action of the gastric juice, if they do not actually decompose it; and if they be taken in any quantity they seem to act as a sort of pickle or preservative to the food, and prevent its solution.

4. Eating Too Soon after a Previous Meal—

The quantity of gastric juice secreted being only sufficient to digest the first meal, none can be supplied for the second, which also begins to pass out of the stomach undigested and mixed with the first, necessarily occasioning more or less disturbance in the intestinal part of the process. The stomach also, in common with other organs of the body, needs an interval of repose for the recovery of nervous energy. The error of eating too frequently is very common, especially among those who take luncheon three or four hours after breakfast, and dine again after an equally short interval.

5. Exertion after a Meal—The well known experiment of feeding two dogs, and allowing the one to rest while the other was encouraged to hunt a hare, when it was found at the end of two hours that the first had fully digested its food, while in the other digestion had scarcely begun, is an illustration of the harm of too active exercise immediately after a meal. Even healthy people are apt to disturb their digestion by returning to business, or taking exercise of any kind shortly after eating; and dyspeptics should rest at least two hours after dinner. Nor is it prudent to exert the brain in any way after eating; for the diversion of nervous energy from the stomach to the brain deprives the former of

what it needs at that time, and, if the habit be persisted in, is sure to be followed by discomfort and indigestion. Indeed, so important is it that nervous energy should be concentrated on the process of digestion, that it is unwise by reading newspapers and magazines during meals to divert attention from the food, and prevent its being thoroughly masticated and insalivated.

6. Eating Late Suppers—Meals should not be taken shortly before retiring to rest. The gastric digestion is almost completely suspended during sleep; and even the intestinal digestion is but imperfectly performed. Hence the food remains in the duodenum, and by pressing on the great ascending vein (*vena cava*) is apt to produce nightmare or irregular action of the heart, and to disturb the secretion of bile, pancreatic juice, etc. For late diners supper is entirely superfluous: for early diners no substantial meal should be taken within three hours of bedtime.

Dietetic errors such as these evidently require something besides the administration of medicines: they require reformation of habits. Obviously, the evils attending overloading the stomach are to be corrected by some measure of abstinence from food, or from that form of food which more particularly distresses the digestive organs.

The quantity eaten should be always rather under than over what the appetite *seems* to require, for the appetite is apt to become morbid. Franklin's rule to leave off with an appetite is a good one. By so doing, in ten minutes the appetite will be gone, because the food taken has already begun to be appropriated by the body. The best rule is to carefully observe the sensations after eating a hearty meal: if, within three or four hours there is a feeling of fulness and distention, accompanied with feverishness or irritation, it is clear that too much has

been eaten, and the quantity should be diminished till it can be comfortably digested. Dyspeptics should also not mix various articles of food at the same meal, but rather vary the diet from day to day. Many substances will be tolerated by the stomach if eaten alone or with bread only, which would occasion distress and disturbance if mixed with other articles more or less digestible in themselves. Persons with weak digestive powers should be careful not to overload the stomach when traveling, or otherwise exerting themselves more than usual. Many railway travelers, stimulated by the nervous excitement of traveling, or for want of occupation, eat a great deal on their journey. It is an error to suppose that the system requires more support when on a journey or a voyage. Food is then really less necessary than when there is active exercise. Hence the extra quantity of food and stimulant taken has the effect of increasing the disturbance and irritation which naturally arise from fatigue and excitement. In fact, the nervous energy is on these occasions diverted from the stomach, rendering the digestion less perfect than usual.

Those who suffer from weak digestion should accustom themselves to drink very little at their meals, especially of any cold fluid. The time to drink is from two to three hours after a meal, when the cold fluid restores the tone of the stomach, and assists the digested food in passing out of it to undergo the duodenal digestion. The use of strong stimulants should also be abandoned. For young and healthy persons condiments are quite unnecessary. They may afford some enjoyment as matters of taste, but if they occasion dyspepsia they are surely much better avoided.

As to alcoholic stimulants, they have been seriously misused. To children, young persons and those in perfect health, they are as a rule worse than useless; and ardent spirits are most decidedly injurious.

Healthy persons as well as dyspeptics should accustom themselves to do without stimulants, excepting in the rare cases when they are thought to be necessary by their medical adviser; and then, like other medicines, they should be the best and purest of their kind. If persons have been long accustomed to alcoholic drinks, the sudden and total discontinuance of their use may in some instances prove prejudicial; but as a rule this is not the case, the proof of this being found in the freedom from any unfavorable effects when paupers or criminals have been deprived of their customary portions, to say nothing of the testimony of reclaimed drunkards who have become total abstainers.

Now with regard to the *nature* of the food for dyspeptics, this is of less importance than the *quantity*. Still it is by no means unimportant. It should be as simple as possible at each meal, and varied from day to day; and, as Dr. Parkes suggests, when variety in the kind of food cannot be secured, variety in the method of cooking and serving it will attain the same object. Of course, all articles must be avoided which possess any distinctly medicinal properties, or are known to disagree with the individual. Still it must not be supposed that everything that has disagreed will always disagree, and must therefore be utterly and forever excluded from the dietary. Some persons, acting on this erroneous supposition, have reduced their diet to a repulsive monotony, and have no relish for their food. Some make the great mistake of excluding solids, and take nothing but liquids. Solids are necessary to stimulate the action of the stomach, in which liquid will remain undigested; and the organ should be encouraged, by hopeful attempts at variety, to appropriate articles in addition to those which have hitherto been taken. To many persons not a little comfort will be gained by taking animal and

vegetable food separately, as in France; *i. e.*, taking meat at one meal, vegetables at another. Vegetables are less likely to cause flatulence if taken alone than if combined with flesh. But whatever the kind, it cannot be too simple nor too plainly dressed.

Of *meats*, mutton is usually found to be most suitable for those whose digestion is weak, and will often be more easily assimilated than beef. Roasted meats are better than boiled. Meat should not be over-dressed, nor baked in a close oven, nor cooked a second time. All fat should be rejected. Boiled chicken, venison, and lightly boiled eggs are most digestible. Then come roast fowl, lean turkey, partridge and pheasant, Guinea-fowl, pigeons, followed by lamb, oysters and boiled white fish (except cod). The last may be rendered more digestible and tasty by a few drops of lemon-juice. Rich and oily fishes, and those of firm texture, should not be ventured upon. Of all kinds of fresh meat, that which is broiled is the most wholesome, nutritious and easy of digestion. The lean of a tender rump-steak, about an inch and a half thick, and broiled over a quick fire from five to ten minutes without being cut or pricked so as to let the gravy out; or a loin-chop, stripped of all skin and fat, and broiled over a quick fire from five to eight minutes, will prove a tempting and nourishing morsel. The usual joints of fresh meat, especially the juicy, lean portions, come next in digestibility: if they be taken the dyspeptic has a sufficient range. Greasy meats, such as pork, duck, goose, fatted turkey and salted or preserved meats, are to be avoided. Soups, and other liquid food, are only slowly acted upon by the stomach; and if the diet consist chiefly of them, they seldom fail to produce dyspepsia, and should therefore be avoided or thickened with bread, rice or pearl-barley, in order that there may be something solid to stimulate the muscular coat of the stomach.

With regard to *vegetables*, they are more slowly digested than animal and farinaceous, or flour-food, and are therefore more likely to undergo fermentation in feeble stomachs, and thus occasion acidity and flatulence. They should therefore be taken with caution and discrimination; still they should not be altogether omitted from the dietary, or disease in some form will ensue. Potatoes should be old and mealy, not young nor waxy: peas and beans must be very young and soft. Spinach can generally be taken: of cauliflower only the head is eatable. Cabbages of all kinds are usually objectionable, especially where there is a tendency to flatulence. Rice and other farinaceous articles, either in the form of porridges or light puddings, are generally found to agree with weak stomachs; but starchy and saccharine matters, in certain debilitated states of the digestive organs, appear to be transformed into lactic acid, and to occasion acid eructations (belchings); oatmeal is in this respect the greatest offender, rice the least. Roasted apples with a little cream and a very little sugar may serve for dessert; but raw fruit should never be eaten at the close of a substantial meal. Between such meals, or as a separate meal, ripe fruits in season, such as oranges, strawberries, raspberries, currants, grapes, peaches, nectarines, apples or other freshly gathered fruit, will be found to agree with most persons, if eaten in moderation, and if skins and seeds be studiously rejected; indeed, if taken with a slice of stale bread they will often aid digestion. Plums uncooked should seldom be eaten by persons subject to indigestion, but when cooked the pulp is not objectionable. Dried fruits, whether cooked or uncooked, such as Normandy-pippins, figs, French plums and muscatel raisins, may be taken in moderation if skins and seeds be rejected; oily fruits, such as nuts of all kinds and olives, are objectionable.

All kinds of bread should be stale or toasted dry. Hot-buttered toast, made spongy and fat, must be rejected; so also must hot rolls, muffins, crumpets, and likewise new or fatty cakes; bread-puddings are safe, plain, not sweet; water-biscuits are far better than fancy sorts; pastry, puddings and rich cakes are condemned. Cheese should not be taken after dinner; but if new cheese, cut into thin slices, toasted and basted while toasting with cream, be served on a hot-water plate, so that it does not become hard and tough, it will prove a nutritious and tasty morsel. The most innocent and useful beverage is good, pure, filtered water; the softer the better if it be pure. The temperature at which it may be drunk should be proportionate to the temperature of the body and its susceptibility to heat and cold. To fermented and alcoholic drinks reference has been already made. Cocoa, made from "nibs," is the best kind of drink for breakfast; one small cup of *black* tea, infused only two minutes and a half, with a slice of lemon and a little crystallized sugar in it instead of cream or milk, is sufficient in the evening. New milk is not easily digested by some persons; but there are others who can take it better than skim-milk, whether boiled or unboiled; milk is, however, better not boiled as a rule. Butter is sometimes too rich, but good, fresh farm-butter is not often found to disagree; of all fatty substances it is the most easily assimilated; to some very salt, and to all rancid, butter is objectionable. Fruit, fresh or preserved, jellies or marmalade, often prove a good substitute for butter. Eggs are usually not only wholesome, but easily digested if they are lightly boiled.

In all cases of dyspepsia the cooking cannot be too simple. Dishes fried in butter, rich sauces and savory compounds are quite out of place. The appetite should

not be thus tempted; the natural flavor of the food, so cooked as to make it readily soluble and digestible, and served attractively, should present sufficient temptation. The food should be eaten, and the meal nearly completed before the patient drinks; indeed the principal meal of the day is better taken without any liquid. A more objectionable practice than that of drinking with solid food is the too common habit of drinking before the meal. Food should never be taken hot: to scald either tongue or stomach is to injure two useful organs.

The following dietaries are recommended for persons suffering from flatulent dyspepsia:

Breakfast—Half a pint of milk, with or without soda-water; one egg lightly boiled; dry, cold toast, bread and butter, with beefsteak or mutton chops.

Dinner—Roast or boiled mutton or beef, better taken warm; roast or boiled fowl or game, without any sauces; any kind of fish except salmon, without sauces; any kind of vegetable except potatoes; a small quantity of stale, brown or white bread; salt to be taken freely, all other condiments to be avoided; fruit stewed with plenty of sugar, if more sugar be added subsequently it does not sweeten the fruit so well; rice-preserves in small quantities; cheese to be avoided.

Supper—One small cup of weak, black tea, or of cocoa freed from fat; dry, cold toast, crust of brown bread or oat-cake. A small slice of cold roast or boiled mutton or beef. This dietary is so ample as to include what may be selected from, rather than what may be wisely indulged in. Self-restraint rather than self-indulgence must be the universal rule with dyspeptics who wish to be free from the inconveniences of indigestion.

DIET FOR SCROFULA.

The most important predisposing cause of scrofula is undoubtedly hereditary constitution, and there are observations which seem to indicate that it is most frequently inherited from the mother. The practical conclusion from this is that the mother ought not to suckle her child if she come of a scrofulous family. If, on the other hand, she be healthy, and the child inherit the scrofulous tendency from the father, she should set herself to provide the most nourishing diet she can from her own breast, and as long as possible. Everything that will nourish her, and through her the child, until the molar teeth appear, should be perseveringly taken, and everything that will disagree with her and through her the child must be studiously avoided.

When the teeth appear, and more solid food than milk becomes appropriate, the diet should be of a light and digestible character. A larger proportion of animal food than is usually given to little children should be allowed. Cod-liver oil, as a supplemental article of diet, is an agent possessing such remarkable and well-known properties of arresting general or local emaciation as not to require further recommendation. It may be given in childhood to arrest the development of scrofulous symptoms, and throughout future years either to arrest or to correct them. It may be given in any case in which there is wasting without acute febrile symptoms, in teaspoonful-doses, two or three times a day, commencing even with half a teaspoonful if it be found to disagree, or if there be reluctance to take a larger dose. This, or

olive-oil, may also be advantageously employed for inunction over the chest, abdomen and back. Beef, mutton, venison and fowls are the best kinds of animal food; to these should be added preparations of eggs and milk, a due quantity of bread, mealy potatoes, rice and other farinaceous ingredients, as more suited to this class of patients than very watery and succulent vegetables. Every thing that favors the production of acidity; too much fruit; very salt, sweet, fat or highly seasoned food should be avoided. No food, not even cod-liver oil, should be so given as to excite disgust. The variety to stimulate the appetite should however be in methods of simple cookery, rather in the selection of what is tasty but innutritious. Alcohol may be of some service when prescribed as a medicine, but only under the watchful observation of a medical man.

DIET FOR CONSUMPTION—CHILDREN.

The diet of the children of consumptive parents is of such importance that it should engage attention from the earliest period of life. If the mother be delicate and predisposed to consumption, a wet-nurse of a thoroughly healthy constitution should, if possible, be provided. If a consumptive mother nurse her infant, she is in danger of bringing into activity the tubercular disease in herself; while the child is but imperfectly nourished, and derives, with the supply of milk, an element of danger additional to that which it inherited from birth. The infant should be restricted to healthy breast-milk until the eye-teeth are cut, after which slight additions of farinaceous or

flour-food may be allowed once or twice daily, and the child weaned at about nine months. If a wet-nurse cannot be obtained, the nourishment should bear the closest possible resemblance to the mother's milk, and the best substitute for this is cow's milk modified by the addition of water and *sugar-of-milk*, for the milk of the cow contains more oil (*cream*), but less sugar than that of woman. It is prepared for use as follows: Dissolve one ounce of the *sugar-of-milk* in three-quarters of a pint of boiling water. Warm to the temperature of breast-milk, *when wanted*, and mix with an equal quantity of fresh cow's milk, and let the infant be fed with this preparation from the feeding-bottle in the usual way. After feeding, always wash the bottle with a weak solution of soda, and put the teat into cold water, letting it remain there until wanted again.

It is of course necessary to use cow's milk of good quality, always to administer the food freshly mixed, at a uniform temperature, namely, that of breast-milk, and for the first month not oftener than every two hours and a half during the day, and every four hours during the night. On no account should the babe be allowed to sleep with the tube of the bottle in its mouth, or to suck as often and as long as it likes. (See also "Diet in Infancy.")

About the eighth or ninth month, when the teeth usually begin to appear, a gradual change of diet is necessary. This should consist chiefly of farinaceous preparations, the best of which is, *Neave's Farinaceous Food*, if obtainable; afterwards sop made with bread which contains no alum, bread-and-milk, light puddings, oatmeal-porridge, and a little mutton-broth, beef-tea, or bread soaked in a little gravy as it escapes when cutting up a joint of meat. Feeding with a spoon, by favoring admixture of saliva with the starchy particles, will pro-

bably insure a more perfect digestion of food. Till the molar teeth appear, however, all preparations of animal food should be avoided. After weaning great care should be taken, and every kind of food avoided that causes irritation or diarrhea. Children should be fed regularly, be taught to masticate thoroughly, and not allowed to take too active exercise *immediately* after meals. Even thus early, should there be any symptoms of innutrition, a small dose (ten to fifteen drops) of cod-liver oil may be advantageously given.

ADULTS.

For older persons the diet should be digestible, nourishing, varied, and sufficiently abundant to meet the requirements of each case. As a general rule it should include animal food as fat as can be digested, once or twice a day; oysters and other wholesome kinds of fish, especially those varieties which are richest in *phosphorus*; good home-made bread, not less than one day old; puddings of arrow-root, rice, sago, tapioca, etc., taken, if preferred, with stewed fruit; various kinds of green vegetables, and mealy potatoes, oatmeal and milk; *good milk* is a priceless article of diet; raw eggs, swallowed whole or beaten up with a little cold milk, are strongly recommended; but fresh pork, sausages, veal, fish not having scales, pastry, and all articles that give rise to irritability of the stomach, nausea, heartburn, eructations or any other symptoms of indigestion, should be avoided. If the patient is benefited by its use, he may take a moderate allowance of beer or wine.

Burgundy, claret or hock, diluted with water, may in some cases be given with good results.

Great discrimination should be observed with regard to stimulants; if they flush the face or accelerate the pulse they should on no account be allowed. Malt liquors are more suitable than strong wine or spirits. The English extract of malt affords palatable fat-forming material of an unstimulating nature.

The following dietary is suggested. In the morning take, in case of acidity or other forms of indigestion, two tablespoonfuls of lime-water with milk; or if there be much debility, a dessertspoonful of rum may be substituted for the lime-water; or the lime-water and the rum may be alternated as required.

Breakfast. Bread and butter, and a lightly boiled egg; or cold boiled or hot broiled bacon, or broiled fish and a cup of cocoa or black tea.

Dinner. A slice of roast mutton or beef, rich in fat; or a portion of a fowl, or other light meat, with vegetables; and tapioca, rice or other milk-pudding. A glass of malt liquor may be allowed if it do not, as before stated, increase the pulse, flush the face or make the patient feel sleepy and heavy. At about 6, a cup of good cocoa, with a sandwich or bread-and-butter. White fish, fowl or other light meat may sometimes be added. Water-cresses, lettuce, etc., may often be allowed with great advantage. Also a small basin of toast and milk, oatmeal-porridge or other easily digestible farinaceous food, may be taken.

Raw-beef juice, if suitably administered, is a valuable adjunct to the food of the consumptive. Half the quantity produced, according to the receipt given elsewhere, may be allowed for breakfast instead of the egg or meat in the above dietary; and the other half at dinner, or instead of cocoa at "tea," according to the appetite and digestive power of the patient.

Beef-pulp has also been given to consumptive patients with great advantage.

The importance of selecting digestible food is evident from the fact that tubercles do not arise except during a period of imperfect nourishment. By whatever means we can promote nutrition, in the same ratio the advance of consumption is prevented or retarded; an important sign of improvement being an increase in the patient's weight. The system is invulnerable to consumption so long as it is well nourished by a healthy digestive apparatus.

"It is clear, therefore," writes Dr. Chambers, "that it is the tendency to tubercle, and not the existing tubercle, which we have to fear and to guard against; and that for the successful treatment of consumption we must withdraw our minds from the morbid anatomy of the locality to the fatal propensity of the constitution. I know you are disposed to turn first to the lungs. But if we inquire into the histories of those who have lived long with vomicæ (*abscesses*) or tubercles, they are by no means found to have taken special care of their chests—they have not coddled or lived indoors, in even temperatures, hanging their lives on to their thermometers for fear of coughs; they have gone on with their professions or business or work; they have not 'laid a knife to their throat,' but have eaten and drunk like other people, and have enjoyed the gratification of their appetites. A patient of mine," continues the doctor, "over fifty, with copious pyoptysis (*spitting of purulent matter*) and condensed lungs (of probably a tubercular nature) from his youth, has kept hounds, broken his bones like other Nimrods, contested county elections, sat in Parliament, enjoyed his champagne and other good things, *but never allows any doctoring of his chest.*"

“Leave the respiratory organs alone, and direct your thoughts to the organs of nutrition—the stomach and bowels, which will receive with thankfulness, and return with interest, any care you bestow upon them. It is truly by aid of the digestive viscera alone that consumption can be curable. Medicines addressed to other parts may be indirectly useful sometimes, but they more commonly impede the recovery ; whereas aid judiciously given in this quarter is always beneficial, and usually successful. Your aim should be to get the greatest possible amount of albuminous food fully digested and applied to the purpose of the renewal of the body, at the same time that the renewing agencies are brought to their highest state of efficiency. In this way a healthy cell-renewal takes the place of that morbid, imperfect cell-renewal which appears in the shape of tubercular matter.”—[*Lectures chiefly Clinical*.

Fatty matter, in quantities as large as can be assimilated, has been strongly recommended. The late Sir James Simpson observed the healthy appearance and freedom from scrofula and consumption of the operatives of woollen factories, consequent on the oil which in the course of their daily labor finds access to the skin. It was also seen that the work-people improved in appearance when they engaged in the more oily processes, and often lost flesh and strength after leaving them. So impressed was Dr. Simpson with the value of oil in the prevention of consumption that he laid down rules for its application by inunction. He recommended a bland, inodorous olive-oil to be applied warm to the whole cutaneous surface, with a considerable amount of friction, which renders absorption greater.

Cod-liver Oil may be considered as an item of food, and its power in checking emaciation and improving the healthy tone of the muscular structures is now too well

known to require commendation. Perhaps some of its usefulness depends on the *iodine* and *phosphorus* contained in the oil, thus forming a natural compound of food and medicine. It may be advantageously given in scrofulous affections and troublesome cough, especially if occurring in a family in which consumption has been fatal.

The best time to administer the oil is with, or directly after, food. If there be any difficulty in retaining the oil, it may be given just as the patient lies down to sleep. Tasty accessories will often disguise the flavor of the oil, so as to prevent nausea. But when there exists an insuperable repugnance to the internal use of the oil, injections containing it may be tried; or it may be introduced into the system by inunction, or rubbing it into the skin, or by applying chamois-leather soaked in it, to the chest, sides or between the shoulders.

Besides cod-liver oil, there are other animal fats and oils which, if they can be taken and assimilated, are certain to be followed with good results: such as rich milk, cream, butter, home-fed, fat bacon, and other substances rich in fatty matter. Suet boiled in milk is one of the best substitutes for the oil, and to some persons is not repugnant. *Cream* is often of great value; to prevent its oppressing the stomach, a teaspoonful of cold, strong, black tea may be mixed with it. Cream is, however, probably inferior to cod-liver oil, and has not the same anti-tubercular effect, for the *iodine* which is present in the former is absent from the latter. These varieties are mentioned so that in the event of a change being desired, one may be substituted for another, as circumstances indicate.

Cod-liver oil should be regarded as food rather than medicine, although the minute amount of *iodine* and *phosphorus* it contains may account for some of its cura-

tive virtues. It is specially valuable in the various forms of *scrofula*, and in all diseases which require fatty substances as food and *iodine* as a remedy.

In the treatment of *consumption* it stands preëminent above other remedies by almost universal consent; for when given in suitable cases it checks emaciation and strengthens the muscular structures.

The value of cod-liver oil is often very marked in the sequel of many acute diseases or inflammations occurring in middle-aged and in old persons, in whom the reparative powers are less active than in children; also in the after-effects of acute fevers in children who have suffered, previously to such attacks, from impoverished health. Scrofula, rickets, St. Vitus's dance, etc., are generally much benefited by the administration of cod-liver oil. Chronic rheumatism and gout, chronic bronchitis, chronic skin-diseases, and the degenerative diseases of the aged, are all more or less modified by the employment of this agent.

Cod-liver oil should, however, not be administered indiscriminately. It is generally inadmissible during the persistence of acute febrile symptoms, congestion, bleeding of the lungs or any active form of disease; digestion being then impaired and the mucous membrane irritable, the oil is only likely to increase the disorder; not till the disease subsides, the pulse falls and the hectic ceases, can it be of value. The sphere of cod-liver oil is to supply animal heat, to fatten the system and arrest tissue-waste: this is best accomplished when active morbid processes and local irritation have subsided, for then the system is in a condition to appropriate a larger amount of nourishment. Some caution is also necessary to be observed in the administration of oil to obviate nausea or eructations. Such effects generally result from the quantity or quality of the oil. The

large quantity of oil taken in some cases occasions disorder of the digestive mucous membrane, or causes it to pass off with the evacuations. The appearance of any oil unchanged in the evacuations is a sign that the quantity given is too large to be digested. We generally recommend it, at first, in teaspoonful doses, twice a day, with, or immediately after, food; if the stomach be intolerant of it, a teaspoonful, or for young children ten or twelve drops, once a day. If there be still difficulty in retaining the oil, we prescribe it just as the patient is lying down to sleep. In cases of extreme irritability of the stomach, cod-liver oil may be introduced into the system by inunction or rubbing the skin with the oil.

The disagreeable effects of oil, and the repugnance felt towards it have often been caused by inferior and unpalatable kinds. It should be as free from smell, taste and color as possible, thus showing its careful and recent preparation. Freshness is of great importance to its dietetic efficacy. Probably the best method of rendering the oil palatable is to have it made up in bread, as it is then scarcely tasted. The proper proportion is two to four tablespoonfuls of the oil to one pound of dough. Patients to whom we have recommended this method of taking the oil assure us that while pleasant and digestible, it is as efficacious taken in this as in any other way.

Coffee or milk forms a good vehicle for the oil. Some find the taste removed by eating herring, sardine or anchovy with it. The juice of half an orange may be squeezed into a wineglass, the requisite quantity of oil poured on the top, and the juice of the other half-orange carefully squeezed on the top of the oil. Orange and ginger-wine or claret are also vehicles for cod-liver oil. The oil should be poured upon the wine, so that it does not touch the glass, but floats as a large globule; in this

way it may be swallowed untasted. A few morsels of agreeable food should then be eaten. Small pieces of ice in each dose of oil also render it almost tasteless. Another plan to obviate taste and nausea is to take a pinch of salt immediately before and after the oil. Sometimes heating the oil is a good plan, as it renders it more fluid and less liable to disagree with the patient. It is also beneficial to omit taking it for a day or two occasionally. The glass should be carefully washed after use, and the oil kept in a cool place. *Be careful that none but a pure article is used.*

DIET FOR RHEUMATISM.

In acute rheumatism the maintenance of a steady, equable temperature is of far greater importance than purity of air, or even strict attention to diet. Still the eating of nitrogenous, restorative food really retards recovery, and if resumed too soon during convalescence will cause relapse. It may be annoying to the patient to be refused the meat to which he has been accustomed and for which he longs, but the annoyance must be borne as the less of two evils. For if meat be taken in any form, solid or liquid, it becomes converted into lactic acid, the excess of which is by many supposed to be diagnostic of rheumatism. At any rate, the acidity in the perspiration and urine, which is characteristic of this disorder, is markedly increased. And the more fleshy and red the meat, the worse it is for the patient. A non-nitrogenous diet, except in broken-down, debilitated constitutions, or where serious nervous

or heart complications exist, has been found very successful in rheumatic fever. But while this diet diminishes the formation of acid and lessens cardiac power, thus rendering the pulse smaller and softer, this second effect renders extreme caution necessary in its adoption, when either heart or brain is seriously affected.

Dr. Parkes has given biscuits made in the following manner, with very good results, and with satisfaction to the patients: "Butter was melted in a jug placed in a warm-water bath, and the liquid oil was poured off. Arrow-root cakes were made with a portion of this butter, and a little sugar was added." Sweetened arrow-root or other farinaceous jellies are also acceptable.

Farinaceous (flour) food is not so readily and abundantly converted into the offending acid; this, therefore, constitutes the only appropriate diet. During the fever it should be restricted to water, milk and soda-water in equal quantities, barley-water, gruel, arrow-root, rice, corn-flour, panada and other preparations of bread, oat-meal-porridge, mashed potatoes, etc. The cases which recover most speedily and satisfactorily are those where the patient has been kept almost at starvation-point; where whatever the appetite, whatever the clamor for animal food, nothing is given but "spoon-food." Even when the pain is gone, and all that appears to be requisite is the recovery of flesh and strength, nothing is gained by a speedy return to ordinary diet; in fact, relapse is rendered probable by its adoption. Mutton-broth, beef-tea, and other liquid or semi-liquid preparations, and next light puddings, preparations of bread, white fish and fowl must for a time constitute the transitional diet. Malt liquors in acute rheumatism, sweet wines and much sugar should always be avoided. But alcoholic stimulants may be needed in depression from

severe heart implication. Lemon-juice may be taken freely.

In chronic rheumatism the diet should be generous but easy of digestion, as attacks are often occasioned by disorders of the stomach. Beer and strong or sweet wines must be avoided. Cod-liver oil should be given to nourish and warm the system.

We may add that a sufferer from chronic rheumatism should wear red flannel next the skin, or over a cotton garment, the thickness of the flannel being regulated by the weather, and should have plenty of rest and bask in the sun.

DIET FOR GOUT.

Cullen has remarked that gout seldom attacks persons employed in constant physical labor, or those who live chiefly on vegetable diet. Subsequent observation has confirmed the truth of this remark. It appears to be probable that gout is occasioned by an accumulation of imperfectly changed nitrogenous matter, due either to an excessive nitrogenous supply, or to a defective transforming capacity, or to an arrest of transformation by alcoholic drinks, or to an imperfect transformation of some material in the alcoholic drink. For there is found to be an accumulation of oxydizable materials which are not naturally assimilated. Hence they remain in the system in the form of uric acid, which is convertible into urate of soda, the characteristic deposit of gout. At any rate, experience shows that in some subjects the disorder attends a highly nitrogenized diet, sedentary

habits, immoral self-indulgence, and a free indulgence in the heavier kinds of wine and beer. Even intellectual pursuits, by working the brain without exercise of the limbs, contribute to the development of gout. There is, therefore, perhaps, no disease in which properly chosen and well regulated diet and hygiene are of greater importance.

Those, then, who inherit a predisposition to this disorder, or who exhibit premonitory symptoms, or who have actually suffered from it, should abstain from rich living. The children of gouty parents should be accustomed to eat a large proportion of vegetables, so as to acquire a taste for them, and be habituated to the digestion of them. Oatmeal-porridge for breakfast, butter-milk for drink, and a very moderate proportion of meat at any time, should form their diet while growing. When years of maturity are reached the diet should be simple, that temptation to excess may be avoided; limited in nitrogenous material; consisting largely of vegetables, especially if the habits of life be inactive. Meat should be eaten only once a day; soles, whiting and cod, mutton, tender beef, fowl and game, are suitable. Salmon, veal, pork, cheese, and highly seasoned or made dishes, pastry, greasy or twice-cooked meat, raw vegetables, articles which cause eructation or belching, or other symptoms of dyspepsia, and anything likely to lead the patient to eat more than is strictly moderate, must be avoided. The gouty person should be even more abstemious with regard to drink than to food, altogether avoiding sweet beer, strong and sweet wines. Port is to be particularly eschewed. The lighter wines, such as dry sherry, claret, Burgundy, hock or dry champagne, may be taken by some persons in moderation; but if the gouty predisposition is established even these will bring on a paroxysm. Stout, porter and old ales are

almost as injurious as port. The lighter beers act in the same manner as the lighter wines.

DIET FOR GRAVEL AND STONE.

Patients having a predisposition to the formation of stone, especially if they have passed gravel with their urine, require medical treatment and careful supervision to correct the tendency to such formations. But in addition to the employment of medicines, attention to diet will be of considerable service. A reference to the varieties of stone, and what produces it, will indicate those ingredients of food that should be avoided.

Uric acid forms the nucleus of most urinary concretions, and many entirely consist of it. The small red grains, like Cayenne pepper, called *red gravel*, and the brown lumps of stone are due to the excess of this acid. It exists in a normal condition of the urine, but is only deposited when excessive. This excess is closely related to the constitutional disposition of gout. Indeed, the uric-acid condition often alternates in the same individuals with gout; even in generations this may be observed, gout manifesting itself in one, gravel in the second, and gout again in the third. This is the most common variety of stone, and may occur at any age. The great object, then, in treating this disease must be the correction of the constitutional disposition and the prevention of the deposit of uric acid, where this tendency is known to exist. Where gout is known to exist in a family, and gravel is at any time observed in the urine, preventive measures should at once be taken, without waiting

for the actual presence of those symptoms which only occur at late periods of the disease. All then that has been said in other parts of this work, on the dietetic treatment of rheumatism and gout, may in all cases be appropriately considered with reference to stone. Indeed the strict observance of precautionary regimen is the more urgent in this case, inasmuch as stone is more painful and dangerous than either gout or rheumatism.

Phosphatic salts exist in the urine when in a healthy condition, but are then held in solution. Should the urine, however, be deprived of its normal acidity by inflammation of the bladder or kidneys, due to an anæmic or broken down state of the constitution, phosphatic gravel may be deposited. It may also form a concretion around some irritating substance in the bladder, as a uric-acid stone. This form occurs chiefly in the aged.

Oxalate of lime never occurs in healthy urine, it is always a morbid product. Properly speaking, there is no gravel or sediment; the particles of oxalate float as crystals in the urine, or subside if it be allowed to stand, but not in large quantity. When observed in children this form of gravel occurs in those that have been brought up in the country, but have been underfed, are pale, feeble, and suffer from disturbed sleep, acidity, etc. It seems to be occasioned by their eating too large a quantity of acid fruits and bad vegetables, such as rhubarb, sorrel or tomatoes, and drinking hard, unboiled water. It does not appear to be necessary that the food taken should contain oxalic acid, for by fermentation other organic acids taken into the system may be converted into the oxalic. When the oxalate is found in the urine of adults, it appears to be consequent on feeble powers of assimilation and exhaustion of the nervous system from over-work, anxiety or excesses; on frequent attacks of gout, or on exposure to damp, cold, want of fresh air, and a low, unvaried diet.

In the treatment of these different forms of the disease, it is obvious that first and foremost all avoidable causes must be removed; high living, alcoholic liquors, insufficient exercise on the one hand, over-work, anxiety and excesses of all kinds on the other. Occasional abstinence from animal food for a time is advantageous, except when the oxalic constitutional disposition exists; then it is necessary to allow a generous animal diet of simply dressed and plain, nourishing meat. Restriction must be placed upon (1) *sugar*, in whatever form or combination this substance is presented; (2) *fatty matters*—butter, cream and fat meat, whether simply cooked or in the form of pastry; (3) *alcoholic beverages*, especially in the form of sherry, port and the stronger wines, strong beer, champagne, etc. Tea and coffee must also be taken in moderation. Abstinence from these substances is recommended on the ground that the labor of the liver will thus be greatly lightened, and correspondingly the vicarious work of the kidneys will be diminished. Succulent vegetables and fruits when cooked should be preferred. Lemon-juice is corrective. But rhubarb, sorrel, apples, pears, and other acid raw fruit and vegetables should be avoided. Water-cresses and lettuces are the least objectionable, because they correct any scorbutic tendency of the blood, and act as sedatives to the urinary organs. Milk-diet and frequent draughts of pure, soft water are also recommended. Filtered rain, or distilled water, rendered alkaline by soda or caustic potash, has a great solvent power, and may be taken to the extent of one or two pints daily. Indeed, removal to a locality where pure soft water can be procured is often alone curative.

The explanation of this value of water-treatment is that from drinking but little fluid the urine becomes concentrated and acid, and thus irritates the mucous mem-

brane; while drinking more water the urine is diluted. And not only is there a real and substantial benefit through the diminution which the water effects as a diluent in the irritating qualities of the urine, but a still greater benefit is realized in the flushing and cooling of the congested liver. It is quite open to question, whether the alkaline waters that are frequently recommended do not confer benefit as diluents rather than as medicaments. At any rate, we know that the free drinking of pure, soft water is of priceless advantage.

DIET FOR DYSENTERY.

In dysentery, diarrhea, inflammation of the bowels and typhoid fever, it is essential that scrupulous attention be paid to the diet. By maintaining the recumbent posture and abstinence from all but the simplest food, the bowels are kept at rest, and opportunity is afforded for soothing inflammatory symptoms. The food selected should consist only of articles which are known to exert the least stimulant and irritant action on the mucous membrane and muscular fibres. Such are cold water, toast-water, gum-water, barley-water, *milk*, soda-water and milk, isinglass, *rice*, arrow-root and cocoa; then come broths, ripe grapes, and other liquid forms of food; all to be given cold or cool. When recovery has considerably advanced, stale bread, eggs, white fish (particularly sole and whiting), white-fleshed poultry, fresh game and tender meat may be taken in the order recited. But the return to solid food must be gradual. Acid fruits, succulent vegetables, salted, dried and smoked meats must be avoided; a mealy potato may be allowed

with caution. In *chronic cases* beef-tea and other animal broths may be taken; milk and soda-water, or milk and lime-water should be given according to the requirements of the case. Frequently, too, a change to a dry, mild, equable climate is necessary.

DIET FOR CHOLERA.

During Prevalence—Whenever cholera is epidemic it behooves all persons to be very careful of their health, to be scrupulous about sanitary and hygienic matters, and to take only wholesome and suitable food. Every one should abstain from any article of food (whether animal or vegetable) which may have previously disordered his stomach, no matter how nutritious, digestible or safe to others; and avoid all manner of excess in eating and drinking. A light, unstimulating diet should be taken, but food difficult of digestion eschewed—such as pickled salmon, lobsters, raw vegetables, sour and unripe fruits, cucumber, salads, pickles, etc. Wholesome varieties of ripe fruits, whether in their natural or cooked state, and vegetables plainly cooked may be taken in moderation by those with whom they agree. Water for all domestic purposes should be boiled and allowed to cool; drinking-water ought to be filtered as well as boiled, as it is quite possible it may hold in solution the material poison of cholera, which would be destroyed by boiling and filtering. Late suppers are unsafe, for if a person is overtaken by the disease in the middle of the night with a full stomach, the case is generally a serious one.

During Attack—In every case of cholera, complete

abstinence from even the very lightest kind of aliment should be inexorably enforced from the moment that the nature of the disease is ascertained till convalescence has become decided; in the observance of this rule consists the very essence of successful treatment. The plan of complete abstinence from food has not invariably been adopted by all ranks of the medical profession; and this may account to some extent for the excessive mortality from cholera during some epidemics. Relapse, with alarming effects, has followed from the administration of a little beef-tea or brandy and water, or milk and water. When favorable reaction has begun, brandy, beef-tea, arrow-root or other "nourishment," instead of stimulating the patient back to health, will only arrest reaction and send him back to death. It is egregious folly to attempt to force the exhausted alimentary organs to perform a physical impossibility, viz., prematurely digest food. None is required, and stimulants are worse than useless. Ice may be given freely, to be dissolved in the mouth or swallowed; iced water is also refreshing; enemata of warm milk often repeated are beneficial. When the favorable symptoms are decided, farinaceous preparations may be given, but only in small quantities. In due time broths and soups may follow, but great care must be taken not to arrest recovery by injudicious feeding.

DIET FOR CONSTIPATION.

By constipation is meant the condition due to a collection or impaction of excrement in the rectum—the residuum of the various processes concerned in the nourishment of the body—occasioning irregularity in the evacuations from the bowels, increase in their consistence

and often a sense of fullness and tension in the bowels and surrounding parts. It is that which is consequent on the imperfect discharge of intestinal function, which attends derangement of the whole system, and not of the intestinal canal alone.

In very many cases costiveness depends on some faulty habit in the patient, the regulation of which will probably suffice to remove the inconvenience. Sedentary habits, drinking too much astringent wine, such as port or Burgundy, or black tea, dissipation, the exclusive use of white bread, taking food too dry and destitute of succulent vegetables, neglect of the calls of nature and the habitual use of aperient medicine, are faults which induce constipation. If these be corrected the disorder will generally disappear. But more precise information may be given with regard to food; for costiveness may to a great extent be treated by judicious dieting of the patient.

All superfluous food that has the property of solidifying the excretions and arresting evacuation must be relinquished. Meals should be taken with regularity three times a day, animal food eaten sparingly, but succulent, juicy vegetables and ripe fruits freely. As a rule, persons eat too much and too often. If the stomach be overloaded the food will be imperfectly digested; there will consequently be a larger quantity of feces, and thus the bowels will be overloaded also. Franklin's rule, "to leave off with an appetite," is a good one. By doing this, in ten minutes the appetite will have departed. Coarse, Scotch oatmeal-porridge, made in the Scotch way, by adding the meal gradually to the water till thick enough, and eaten with molasses, should form part of the breakfast. *Brown bread should be preferred to white.* It should not be eaten new; it may be taken for a fortnight at a time, and then temporarily changed for

white bread known to be free from alum. If brown bread be not eaten exclusively, a little should be taken with every meal; its effects will thus be more uniformly distributed through the alimentary canal than if only taken occasionally. White bread, when eaten, should be stale; hot rolls, muffins, crumpets, tea-cakes and spongy, buttered toast are not allowable. Bread and potatoes, and indeed all farinaceous food, requires to be thoroughly masticated and mixed with saliva, as, correctly speaking, digestion begins in the mouth. Of meats, beef and mutton, chicken and game, may be eaten in moderation. Bacon is the most soothing of fats to the digestive canal, and may be eaten freely. This, or two teaspoonfuls of salad oil taken at bed-time, will prevent that drying and hardening of the contents of the bowels which causes impaction and consequent inconvenience. Pork and veal are most indigestible meats; also boiled salt meats, wild duck and goose.

Green vegetables, such as spinach, turnips, greens, green artichoke and asparagus, also the heads of cauliflower, may be eaten freely. Lettuce, water-cress and dandelion are also useful, eaten raw. Care must be taken that potatoes are thoroughly boiled and mealy, while new, hard, waxy ones must be avoided altogether. Roast-apples, stewed pippins and stewed prunes are much better than pastry. Figs can be eaten, if moist and fresh, or in a pudding. Rhubarb, gooseberries and other ripe fruits in season, or preserved, may be taken freely. Condiments, pickles, melted butter, highly seasoned sauces, woody vegetables, such as celery, and cheese must be avoided by all costive subjects. Curds and whey are perhaps suitable when the gastric juice is deficient, as the previous conversion of milk into curds relieves the stomach of its first digestive process. For tea and coffee, cocoa made from the nibs may be substi-

tuted with great advantage. Pure, soft water is a very valuable accessory, both as a drink and for use by enema. A tumbler of water taken while dressing is serviceable, or some may prefer a drink of weak clove-water the first thing in the morning—a tumblerful of water made spicy by pouring boiling water overnight on a few cloves, and letting it stand till morning.

DIET IN WORM-AFFECTIONS.

It should be distinctly understood that these parasites are not found when the alimentary canal is in a healthy condition; they require thick mucus for their home and nourishment, and unless this be secreted they cannot exist. There can be little doubt that their presence occasions excessive secretion, but there must be a previous secretion in which they are developed. In scrofulous constitutions there is a tendency to this excessive secretion. Food in a partly digested state also favors their development. When worms are known to exist, measures should not only be taken for their expulsion, but also for the correction of that unhealthy condition of the alimentary canal which favors their existence. Injections expel them, but only medicinal and hygienic treatment can be relied on for improving the patient's health, and preventing the reappearance of the parasite. Open waters should not be drunk or used in the preparation of food without being previously boiled or filtered; raw or underdone meat, especially pork, ham, bacon or sausages, should be avoided; fruits and vegetables, such as lettuce, water-cress, etc., eaten raw should be first washed in salt and water and then

fresh water and examined; for by eating raw, unwashed vegetables the eggs of worms find entrance into the body. Cooks and butchers are more liable to be affected with tapeworm than other persons; and in countries where uncooked flesh, fowl or fish is consumed, intestinal worms abound.

To correct the excessive and morbid intestinal secretion considerable changes of diet are also generally necessary. The food should be taken only at regular hours, and selected with special reference to its digestibility. It may include properly cooked animal food—mutton, beef, fowl and white fish. Cakes, pastry, sweetmeats, sweet-made dishes, new, waxy, half-cooked potatoes, butter, veal and pork must be forbidden. Salt, as a condiment, should be taken freely with the food, but salted meats should be avoided.

The following scale of diet is recommended by Dr. Eustace Smith for a child over two years of age, to be given in four separate meals in the course of the day:

“First meal—Fresh milk diluted with a third part of lime-water. A small slice of toast, or of dry, stale bread.

“Second meal—A small mutton chop, or a slice of roast-beef or mutton, without fat; dry toast or stale bread.

“Third meal—A cup of beef-tea or mutton-broth, free from grease; the yolk of a lightly boiled egg; dry toast.

“Fourth meal (if necessary)—The same as the first. It is not always easy to persuade children to submit readily to the deprivation of starchy food, for which, and especially for potatoes, there is often in these cases a great craving. So long, however, as a slimy appearance of the evacuations continues to be observed, the above diet should, if possible, be adhered to. When

potatoes are once more allowed, they must be well boiled, and should be afterwards carefully mashed with a spoon. *Steaming* is generally the best method of cooking potatoes. Gravy may be poured over them before they are eaten. In cases where the appetite is lost, and there is disgust for food, children often show an especial reluctance to take meat, which it is very difficult to overcome. A small bird, as a lark or a snipe, will, however, often tempt them, for their fancy is pleased by the idea of eating a whole bird, and this means frequently succeeds when all others fail.

“The above scale of diet need not be literally followed in the case of all children troubled with worms, but may be varied according to circumstances. In general, three meals are better than four; but whichever arrangement is adopted, no food should be allowed between the meals.”

DIET FOR DIABETES.

The best treatment of this dire disease is at present open to question; but it is agreed on all hands that it involves very careful attention to diet. For the most remarkable and at the same time the most important pathological character of diabetes is the misappropriation of food required for the nourishment of the body, by converting it in a very direct manner into a form of sugar, which is excreted in the urine. It therefore becomes essential to deal both with the diseased condition of the secreting organs, most probably the liver, and with the character of the food from which the sugar is secreted. If the food be such that it cannot be con-

verted into sugar by the diseased glands, organically diseased or functionally disordered, it is obvious that great gain is effected, not only by the suppression of a symptom, but also in the correction of a condition; for the urine being less saccharine, the blood is less saccharine, less impoverished, less unfitted for the purposes of nutrition.

For the dietetic treatment of diabetes we give the preference to Dr. Donkin's method. As soon as the actual existence of the disorder is known, an exclusive regimen of *skim-milk* is prescribed. And it *must be exclusive* so long as any traces of sugar are found in the urine. *All cream* must be very carefully removed. Beginning with four to six pints on the first day, the quantity must be increased gradually to from eight to twelve pints daily, according to the age, sex, size and condition of the patient. *In no instance should twelve pints be exceeded*; and if more than seven or eight be given, the remainder should be taken at separate meals in the form of curd produced by essence of rennet. The skim-milk may be taken cold, or at about 100°, but *it must not be boiled*. The daily allowance must be divided into regular meals. The curative power of this skim-milk diet is altogether lost if anything be added to it. The abstinence thus imposed is unquestionably very trying to the patient, but it is the condition on which his life is lengthened. For his encouragement it may be recorded that Dr. Donkin affirms from his ample experience that, provided there are no complications, great relief, if not cure, may be expected from this treatment. As a general rule, it will remove the sugar from the urine, and completely remove the disease in from twelve days to five or six weeks, if only the hydrocarbons of the food are changed into sugar, and in some cases if the albuminates are also thus converted. If this stage

is somewhat far advanced, and the disease is of long standing and attended with much emaciation, it will be arrested in its course and held in check, though not absolutely cured. It should, however, be remarked, that if after the expiration of a week there is no reduction of the specific gravity and sugar of the urine, the disease is not amenable to skim-milk or any other kind of treatment. On the other hand, if the symptoms are ameliorated, and the patient gains strength, there is much encouragement to proceed; and when the treatment has been successful, the skim-milk diet should be rigorously continued from a fortnight to six weeks after the disappearance of sugar from the urine, that convalescence may be confirmed.

Great stress must also be laid on the careful selection of ingredients in the transitional diet, to be adopted when the exclusiveness of skim-milk diet may be lessened, and some approach to ordinary fare may be permitted. Skim-milk and curds must still be staple articles; but, in addition, one or two moderate meals of lightly cooked, *lean* chop or steak, or of roast-mutton or beef, with *green, non-starchy* vegetables, are allowed. The vegetables which Dr. Donkin thinks may be permitted are spinach, lettuce, mustard and cress, the tops of radishes, greens, turnip-greens, French beans and scarlet runners in a very young condition before seed is formed. These are simply not forbidden as highly pernicious: whether it is judicious to take them is another matter. Beef-tea and mutton-broth, from which the fat has been removed after cooling, and without barley or vegetables, except the green leaves of the leek, may also be taken in moderate quantity once daily. Should the progress be favorable and the urine continue to be free from sugar, the following fish may be allowed at the principal meal, which should be early in the day: cod,

whiting and haddock. Their livers, however, must be avoided, as also must oysters, salmon, salmon-trout, herrings and other oily fish. In fact, all fatty or oily substances, and all vegetable articles of food and drink containing starch and sugar must be avoided with the most scrupulous care, for relapse at this stage will frequently prove serious if not intractable. The chief articles of food prohibited are fat, oils, bacon, pork, butter, cream, milk, cheese and yolk of eggs, white or brown bread, pastry, flour in every form and any quantity, macaroni, vermicelli, rice, sago, tapioca, arrow-root, peas, pea-meal, beans, bean-meal, Indian corn-flour, potatoes, full-grown French beans and scarlet runners, turnips, carrots, parsnips, artichokes, cauliflower, cabbages, asparagus, cucumber, squash, and all kinds of fruit in any form, except olives in pickle. All saccharine drinks must also be avoided, including ale, beer, stout, porter, wines; if alcoholic drinks be *necessary*, the diabetic may have the very best pale French brandy, or finest Scotch whisky, or good claret or Carlowitz, but they are generally objectionable. Cocoa free from fat and sugar, tea or coffee without sugar, may be allowed for breakfast. The period during which it will be necessary to adhere to this transitional diet varies very much.

A more permanent dietary is developed out of the transitional by the addition of a much greater variety of animal and vegetable food. But pork, bacon and cheese, bread, pastry, and substances into which flour enters, all starchy products, and sugar in every form must still be most carefully avoided. Again and again does Dr. Donkin repeat the caution that indulgence in prohibited articles, at least before a long and indefinable period has elapsed after convalescence, will most certainly be followed by a return of the disease, which then becomes more intractable than on its first invasion.

Dr. Pavy does not approve of an exclusive skim-milk diet, but in his work "On the Nature and Treatment of Diabetes," he gives the following dietary :

Patients may eat meat of all kinds except liver, ham, bacon or other smoked, salted, dried or cured meats. Poultry, game, shell-fish and fish of all kinds, fresh, salted or cured. Animal soups not thickened, beef-tea and broths.

The almond, bran or gluten-substitute for ordinary bread ; eggs dressed in any way, cheese, cream-cheese, butter, cream, greens, spinach, turnip-tops, turnips, French beans, cauliflower, cabbage, asparagus, squash, mushrooms, water-cress, mustard and cress, cucumber, lettuce, radishes, celery, vinegar, oil, pickles, jelly, flavored but not sweetened, savory jelly, blanc-mange made with cream and not milk, custard made without sugar, nuts of any description, except chestnuts and olives.

Must avoid eating—Sugar in any form, wheaten bread and ordinary biscuits of all kinds, rice, arrow-root, sago, tapioca, macaroni, vermicelli, potatoes, carrots, parsnips, beets, peas, onions, pastry and puddings of all kinds ; fruit of all kinds, fresh and preserved.

May drink—Tea, coffee, cocoa from nibs, dry sherry, claret, dry sauterne, Burgundy, chablis, hock, brandy and spirits that have not been sweetened, soda-water, Burton bitter ale, all in moderate quantity.

Must avoid drinking—Milk, except sparingly, stout, ales mild and old, porter and stout, cider, all sweet wines, sparkling wines, port-wine, unless sparingly, liqueurs.

Dr. Chambers, however, quotes with approval the following list of eatables compiled by M. Bouchardat, Professor of Hygiene in the University of Paris, who has studied the subject of Diabetes ; and adds, "The list has not been improved by any subsequent writers on the subject."

Injurious—Sugar, bread of any kind, or pastry, rice, maize and other starchy grains, potatoes, arrow-root, tapioca, among root products; sago among piths; among manufactured starches, macaroni and vermicelli; of vegetable seeds, peas and beans of all sorts, and chestnuts; radishes, turnips, beets, carrots; all preserved fruits, apples and pears; honey, milk, beer, cider, sweet and sparkling wines, lemonades, and such like sweetened acid drinks.

Permissible—Meat of all kinds, brown or white, boiled, roast or grilled, and seasoned with any sauce pleasing to the palate, provided there be no flour or sugar in it; all sorts of fish, shell-fish and lobsters, eggs, cream and cheese, spinach, lettuce, sorrel, asparagus, hop-tops, artichokes, French beans, cabbage (the last very good with pickled pork or bacon).

Salads of cress, corn-salad, dandelion, lettuce, with a full allowance of oil, and hard-boiled eggs.

Fresh vegetable gluten, *i. e.*, dough with the starch washed out, may be made into an agreeable dish, with cheese and butter. The wearing hunger may be much appeased by chewing cocoa-beans.

Fresh beef-tea is a capital quencher of thirst, also coffee with cream.

We have given these dietaries at length, because there is no disorder of the system more dependent on dietetic treatment than diabetes. As we have intimated, our preference is for the course prescribed by Dr. Donkin, in following which we have found success when other treatment has failed.

As will be observed, the most serious privation is consequent on the prohibition of bread. It is most difficult to deny this to the patient, and yet it is pre-eminently injurious on account of its starchy composition. In order to meet the craving for it various substitutes have

been provided. M. Bouchardat had contrived a bread made of gluten, but it was so little attractive to the eye and pleasant to the taste that few persons have cared to take it; they prefer to go without bread altogether. Dr. Pavy's almond-biscuits are a far nicer substitute. The almond is baked for a short time, and thereby rendered brittle, so that it may be easily ground to powder. The flour thus obtained is prepared with eggs so as to form cake or biscuits. Dr. Chambers expresses the opinion that it is not wise to enforce a diet which is really intolerable to the patient; he would conciliate the stomach, appetite and fancy into taking the greatest amount of animal food and oleaginous matter; and if the patient ate the heartier for having a biscuit, or crust, or glass of porter, or even a forbidden vegetable with his meals, he would deem it better to give him his way than to tempt him to break through all rules altogether by playing the truant. We, however, cannot approve of such concessions; we should recommend total abstinence from all forbidden articles as the surest way of avoiding temptation; we should strengthen the resolve to save life at all costs of self-denial, and prove the truth of the ancient saying, "All that a man hath will he give for his life."

Dr. Charteris has adduced some evidence to show that dieting is of less importance than the maintenance of the temperature of the lungs by preventing the access of cold external air. The temperature is maintained by wearing a respirator alone during the day, and covering respirator and nostrils with a knitted woollen cloth during the night. The following dietary is allowed: Breakfast: eggs, fish, one pint of tea, and biscuits. Dinner: steak, cabbage, biscuits. Supper: tea, milk, biscuits. Three pints of milk during the day are also allowed. The biscuits must contain as little starch as possible in their composition.

A few hints may be given in connection with dietetic treatment. Patients should eat slowly and masticate their food thoroughly, take their meals frequently and moderately ; for the digestive organs partake of the general weakness of the system, and cannot fulfil their functions so readily as when in health. Their powers should, therefore, not be taxed by quick and excessive eating.

The body should be kept warm by flannel next the skin ; gentle exercise in the open air should be frequently taken in fine weather ; the tendency to constipation should be counteracted by the use of suitable medicines.

DIET FOR BRIGHT'S DISEASE, OR CHRONIC ALBUMINURIA.

The function of the kidneys is to eliminate from the blood products that are useless, in the changes and assimilation of food, and materials that have become effete in the disintegration of the tissues, *i. e.*, the waste matters of the body that do not pass through the intestinal canal or the skin. If these were allowed to remain in the blood they would poison it and produce death. When eliminated they constitute urea and pass off in the urine ; when retained they cause uremic poisoning. If the kidneys are in an unhealthy condition, as in Bright's Disease, the urea is not eliminated. Now the amount of urinary matter to be thus eliminated obviously depends very largely on the nature of the food. Fatty, starchy and saccharine matters throw no work upon the kidneys ; their products, carbonic acid and

water, pass off through the lungs and skin. On the other hand nitrogenous food undergoes such a change in the system as to lead to the production of urea, and thus throws much work upon the kidneys. An animal diet which is the richest in nitrogenous matter yields double the amount of urea voided from a vegetable diet. The inference from this is that when the kidneys are diseased the less they have to do the better, and consequently the less should be the amount of nitrogenous food. Hence in Bright's disease only very digestible animal food should be taken, and that only in small quantities, while vegetable food should preponderate. Now, although there is considerable difficulty in persuading those who are thus suffering to persist in a systematic milk-diet, yet it offers the best chance for arresting the disorder. Schmidt says he has obtained the most brilliant results from an exclusively milk-diet when all other treatment failed. It may be given cold or tepid, and from half a pint to a pint at a time. An adult will sometimes take as much as a gallon in the twenty-four hours. But in addition to a limitation of the nitrogenous supply which will be converted into urea, it is important to facilitate the removal of what exists in the blood as the result of disintegration of tissues. This effete matter fouls the blood. Hence the necessity for a copious use of water and watery drinks, which flow out readily by the kidneys, carrying with them such of the waste as may be soluble in water. This dilution will relieve the kidneys. The drinking of water is also the best means of preventing and relieving the dropsy which usually attends this disease. Alcoholic drinks are decidedly harmful. Alcohol is removed from the system by the kidneys; if then the ordinary means of excretion be ineffective the alcohol remains and produces insensibility, and if it be partially eliminated, excessive labor

is needlessly and injuriously thrown upon the diseased glands. For Bright's disease, then, the most suitable diet is a preponderance of vegetables, abundance of water, abstinence from alcohol.

DIET FOR SCURVY AND PURPURA.

Scurvy and purpura (though the latter is called *land-scurvy*) are not the same disease, but analogous. Both are characterized by morbid conditions of the blood and capillary vessels, which cause effusions of blood of greater or less extent just beneath the skin and in other parts, and are followed by other symptoms. Both are amenable to dietetic treatment in conjunction with suitable medicinal remedies. Scurvy gradually supervenes on the continued use of a dietary deficient in vegetable acids. Its occurrence is greatly aided by general deficiency and limited range of food, exposure to cold and wet, and mental and moral depression. It has been deemed to be inseparable from long voyages, but has been proved to be preventable and curable by means to be found in every inhabited country. It is very prevalent in Iceland, especially on the western coast, where the inhabitants depend chiefly on fishing, and where the pastures are limited in extent and inferior in produce.

The corrective is obvious, viz., the supply of those articles of food, *fresh vegetables, milk* and good diet generally, which contain ingredients the absence of which has led to the diseased condition. Cabbage is perhaps the most valuable anti-scorbutic we possess. In slight cases of scurvy or purpura, where bleeding from the veins is

almost the only symptom, it is very successful both in producing a cure and in preventing other members of the family from suffering from it. The vegetable should be fresh: if it has been kept, and then wetted to freshen it up again, it is not nearly so efficacious, and if fermentation has taken place it is positively injurious. The concurrent testimony of many observers shows that the potato is very efficient in *preventing* scurvy; eight to twelve ounces a day are sufficient for this purpose. Oranges, lemons, limes, lettuce, onions, water-cress, mustard and cress, dandelion, grapes, may likewise be used as preventives. Vinegar, good lemon-juice and other vegetable acids are also excellent anti-scorbutics. In severe cases, citrates, tartrates, lactates, and malates of potash should be used as drinks and added to the food. An ample supply of those acids, as well as of preserved vegetables, should be provided for ships which are engaged in war, or have to make prolonged sojourn where fresh vegetables cannot be obtained. The legal supplementary allowance in emigrant vessels is eight ounces of preserved potato, three ounces of other preserved vegetables (carrots, turnips, onions, celery and mint), besides pickles, and three ounces of lemon-juice for each person weekly, and this is found to be sufficient to prevent the occurrence of the disease. The commencement of the administration of lemon or lime-juice should not be delayed beyond fourteen days after putting out to sea.

DIET FOR FEVERS AND INFLAMMATIONS.

There was once an adage in vogue—stuff a cold and starve a fever. That was when the feverish nature of a cold was not understood, and when the importance of sustaining the constitution when in a feverish or inflamed state was not recognized. The feeding of fevers is now generally acknowledged to be an important auxiliary in the treatment of them. Indeed, the celebrated Dr. Graves said that he desired no higher praise after his death than that he fed fevers. In this, however, there is nothing new, for the value of nutrition for those who were suffering from them was observed in the earliest times. Hippocrates was so decided in his opinion on this subject that in his treatise on the management of acute diseases he lays stress on the administration of wine and barley-gruel, and describes how the latter is to be prepared. The time of dietetic revival is, however, but recent; for until the last generation it was considered necessary to starve out the devouring flame of fever or inflammation by refraining from feeding it; French physicians going to the extreme, by depriving invalids of food altogether. The reaction began when Dr. Graves maintained that to feed a fever was essential to its cure. Still, it must not be supposed that food is to be indiscriminately or outrageously given. The great art of daily nourishing fever-patients consists in giving a frequent, almost continuous supply of liquid nutriment, containing very soluble aliments in a dilute form. Stress must be laid on almost every one of these terms. The supply of food must be *frequent, almost continuous*;

it must be liquid, requiring no effort of mastication, making as little demand as possible on the digestive functions; the aliments it contains must be of a concentrated character, of pure and highly nutritive quality, and yet *in a dilute form*, in such a condition as to be very soluble by the digestive secretions, and easily assimilated by the vessels and glands. Such a supply excludes solid food, and large quantities of food at a time.

Preëminent in the treatment of fevers is the free allowance of pure cold water. The patient craves it, and he may take it in frequently repeated mouthfuls, as it is nature calling loudly for a simple and cooling fluid. Milk is the most suitable food. It is what has been provided for the weakest organism, and contains all that is required for nourishment. It is the sheet-anchor in typhoid fever. If half a quarter of a pint be given every hour, or a quarter of a pint, or even more, every two hours, a fair amount of nutriment will be imbibed. The administration of milk will, however, require watching, in case the acidity of the stomach should cause the formation and ejection of cheesy lumps. To avert this result, a little lime-water or soda-water may be added to the milk. Whey will be found refreshing and grateful; and sour buttermilk is not to be despised. Beef-juce or jelly, mutton-broth or beef-tea, with as small a quantity of the meat-fibre as possible, may take the place of milk in many instances. If these are regularly and freely given, the danger of starvation is averted, the emaciation which attends convalescence is lessened, and the occurrence of serious secondary disorders is rendered less probable. In all cases it is extremely important that, from the first, small quantities of very nutritious food should be given regularly and persistently.

Barley-water, water slightly sweetened, toast-water,

weak lemonade, gruel and extract of meat, are valuable variations of diet. When there is disrelish for food, or difficulty of swallowing arising from the arrest of the mucous secretions of the mouth and throat, the parched lips and tongue may be moistened by a little lemon-juice and water, or other agreeable fluid, a few minutes before food is taken. Sometimes the mouth is so foul with slime that great attention is essential to keep it clean; and it may be necessary to wipe it out frequently with a soft rag, moist with a weak solution of permanganate of potash. The cleaner the mouth is kept the better, and it should be invariably cleansed before giving food. Sucking and swallowing *small bits of ice* is both grateful and useful. If prostration, feeble and irregular circulation, or complications indicate it, wine or brandy must be given, but the quantity of stimulants, and indeed of nourishment, must be regulated by the character of the pulse and the condition of the nervous system. Some allowance of alcohol is indicated when there is great prostration of strength, or trembling of the hands, or quivering of the voice, or low, muttering delirium when the patient is left quiet. It should always be borne in mind that alcoholic drinks are not food, afford no nutrition and cannot take the place of food. They are stimulating auxiliaries, but can never render nourishment unnecessary, and should never be administered except with the greatest care and discretion. Roast-apples, grapes, strawberries, oranges, pomegranates, lemons, and other ripe pulpy fruit in season may often be given, in the absence of diarrhea, provided all skins and seeds be rejected. They are cooling to the mouth, and pleasant to the taste. They are all more wholesome before other food than after. But at a certain stage of typhoid fever, fruits are not admissible, in consequence of the danger of extensive ulcerations, which are so common in this disease.

Fresh eggs are highly nutritious, and if taken raw or beaten up with milk or water, are quickly assimilated. They may also be beaten up with a little wine, if stimulants are advisable. If, however, the eggs be stale, or if the albumen be hardened by cooking, or if from the state of the stomach the digestion be slow, eggs will do more harm than good. Generally speaking, they had better be avoided till the gastric functions are restored during convalescence.

As a rule, the temperature of food in sickness should be as nearly as possible that of the natural heat of the body—about 98°. But in cases of fever or diarrhea, or where there is considerable nausea, the cooler it is the better. When there is inflammation of the stomach or bowels, or where vomiting is present, the food should invariably be in a liquid form, given quite cold, and only a few spoonfuls at a time. A very little pepsin may be helpful in such cases.

When there is considerable prostration, when the patient cannot be raised without danger of fainting, or when he ought not to be moved from the recumbent posture at all, as in typhoid fever or cholera, the liquid food is best given by a china feeding-cup, and not by a spoon; for taking food by literal spoonfuls is often a source of irritation to the sufferer, who prefers being left alone and without food rather than troubled to take it in driblets. But the same vessel, or even another of the same appearance, should not be used for both food and medicine.

Sometimes it is necessary to give food otherwise than by the mouth, as at the height or latter end of acute fevers. Injections then become necessary, and life may often be sustained for some time by nutritive injections given by this means. Food must in such cases be blood-warm, diluted, and slowly injected as far as possible.

If the injection be farinaceous, as barley-water or gruel, the addition of a little diastase (in the shape of malt extract) will to some extent supply the deficiency of saliva. If it consist of broth or beef-tea, the addition of a little pepsin will supply the lack of gastric juice. Not more than a quarter of a pint should be given at a time.

Diet for Fever-Patients—Barley-water; water-gruel; rice-gruel; toast-water; white-wine whey; rennet-whey; alum-whey; lemonade; linseed-tea; arrow-root; egg-soup; panada; chicken-broth; mutton-broth; beef-tea; malt tea; tea; biscuit and milk; bread-pudding; rice-pudding; batter-pudding; mashed potato; enema.

DIET FOR HEART-DISEASE.

A diseased heart is a feeble heart, and its impulse is slow; hence the circulation of blood is sluggish, and the absorption of liquids through the mucous membranes is retarded. The consequence of this is that liquids are slowly absorbed by the stomach, and if any large quantity be taken at once, this occasions considerable inconvenience, and interferes with the digestion of solid food. The distention of the stomach also interferes with the action of the heart, already too slow and labored.

In heart-disease, then, only a moderate amount of liquid should be taken at once. Dry diet is accompanied by less discomfort. Soup should not be taken at the commencement of dinner; drink taken during the meal should only be sipped, and should not be cold. Between meals thirst should be quenched by sips. Dry diet is especially indicated if the sufferer be

corpulent, particularly if fat has accumulated about the chest. The diet should be nitrogenous and nourishing. If dropsy supervene, it will be necessary to aid the functions of the kidneys and skin by imbibing a considerable quantity of water; but as soon as the dropsical tendency is arrested, the dry diet should be resumed.

DIET FOR BALDNESS.

As the cause of this malady is undoubtedly exhausted nutrition, we must turn our attention to the restoration of the nutritive functions as the first step towards its cure. Abstinence from all stimulants is an important feature in the diet, for it is a fact that reparative power, especially in baldness, is encouraged by total suspension of wine, beer, etc., good wholesome food taking their place. *Fat* is essential, it being the great nerve-restorer, besides supplying the scalp with the lacking material: it may be taken in the form of butter, cream, cheese (if it can be digested), cod-liver oil and milk; should the latter be found too heavy, it may be taken in the form of *café au lait*. Bacon for breakfast is also useful, its value consisting in the quantity of *fat* which it contains in a compact form; and when *broiled* in slices, which secures thorough cooking, it rarely disagrees even with the most delicate stomach. The lean portions are of less value, and when too highly cured, bacon becomes less amenable to the gastric juices.

Stimulation to the scalp is also useful. We approve of our American remedy only in part; namely, "Use brandy externally until the hair grows, and take it internally to clinch the roots."

When hair begins to grow again after failure, it is soft and downy, like an infant's; it is well, therefore, to strengthen it by shaving; hence Dr. Godfrey's advice, "It is a good plan to mow the cranial lawns once a fortnight, until stubble takes the place of down."

DIET FOR DIPHThERIA.

One of the characteristics of this disease is great prostration. To counteract this, the strength of the patient must be well sustained by nourishment from the very commencement. He must therefore be urged to swallow in spite of the pain which this act generally occasions. Eggs beaten up in milk; beef-tea slightly thickened with rice or pearl-barley; arrow-root or sago, with port or sherry. A teaspoonful of pure glycerine every three or four hours, and as much wine as the patient can take short of intoxication is recommended by some physicians, who say it will do much to sustain strength.

If vomiting occur, constantly sucking small pieces of ice tends to allay it. It also affords comfort to the patient by arresting the constant hawking up of mucus, which is usually abundantly secreted. As a diluent, the melted ice promotes the action of the kidneys.

Children will sometimes persistently refuse to swallow because it gives them pain, and they cannot understand the necessity for bearing the pain in order to nourish the system. In such cases nutritive injections must be employed. About an ounce of fluid should be given at a time. The injections should be commenced (if necessary) as soon as the true character of the disease is known, and repeated every four hours.

DIET FOR CORPULENCE, OR OBESITY.

Some years ago considerable interest was excited by the publication of a method of treatment by which Mr. Banting had succeeded in reducing his cumbersome corpulence to a condition of health, and his weight from 202 lbs. to 156 lbs. There was nothing in this result that might not have been physiologically anticipated from the dietetic measures he adopted. But he brought into prominence the fact that such measures will prove most effective without medicinal aid. It has been judiciously pointed out by Dr. Pavy, that the reduction in weight is not only due to the changes made in the elementary constituents of the diet taken, but also in its quantity; and that it is unsafe to adopt his scale without discrimination, for it barely comes up to what is regarded as "hospital subsistence diet."

Mr. Banting states that his original dietary table comprised "bread and milk for breakfast, or a pint of tea with plenty of milk, sugar and buttered toast; meat, beer, much bread and pastry for dinner; the meal of tea similar to that of breakfast; and generally a fruit-tart or bread and milk for supper." The chief feature of this is the exclusion of vegetables and alcoholic drinks. Subsequently he adopted the following scale:

Breakfast at 9 a. m.; five to six ounces of either beef, mutton, kidneys, broiled fish, bacon or cold meat of any kind, except pork or veal; a large cup of tea or coffee (without milk or sugar), a little biscuit, or one ounce of dry toast; making together six ounces of solids and nine of liquids.

Dinner at 2 p. m. ; five or six ounces of any fish except salmon, herrings or eels ; any meat except pork or veal ; any vegetable except potato, parsnips, beet, turnip or carrot ; one ounce of dry toast ; fruit out of a pudding not sweetened ; any kind of poultry or game ; and two or three glasses of good claret, sherry or Madeira ; champagne, port and beer forbidden ; making together ten to twelve ounces of solids and ten of liquids.

Tea at 6 p. m. ; two or three ounces of cooked fruit, a rusk or two, and a cup of tea without milk or sugar ; making two to four ounces of solids and nine of liquids.

Supper at 9 p. m. ; three or four ounces of meat or fish, similar to dinner ; with a glass or two of claret or sherry and water ; making four ounces of solids and seven of liquids.

Sugar, says Mr. Banting, is the most active of all fat-forming foods ; for he has repeatedly observed that five ounces of sugar distributed over seven days (less than an ounce a day) augmented his weight nearly a pound by the end of that time. Other prohibited substances do not produce such obvious results ; but he made it a rule to avoid all roots or vegetables grown underground, all fat, and all farinaceous matters, eating bread only when it was properly toasted.

For athletic exercises it is often found necessary to reduce the weight and size ; and from the regimen adopted in training, some hints may be gathered for the guidance of those who are corpulent. For athletes the following dieting has been recommended : Breakfast at 8 ; the lean of mutton or beef without fat ; dry toast, biscuit or oat-cake ; a tumbler of claret and water, or a large cup of tea without milk or sugar, or with a slice of lemon. Luncheon at 1 ; bread or biscuit, Dutch cheese, salads, roasted apples, radishes ; after eating, a little water, claret and water, or unsweetened lemonade.

Dinner at 5 or 6; fresh meat of any kind except pork and veal, and without fat or skin; green vegetables, but no potatoes, pastry or made dishes; a jelly, lemon-ice or roasted apple; claret and water during dinner, one glass of Madeira or sherry after it.

For the reduction of general obesity the preceding dietaries may therefore be thus epitomized:

Admissible—Lean meat, poultry, game, eggs, milk in moderation, green vegetables, turnips, succulent fruit, light wines, dry sherry and bitter ale, all in great moderation; brown bread in moderation, wheaten bread in greater moderation, digestive biscuits, gluten-biscuits.

Prohibited—Fat in every form, butter, cream, sugar and sweets of every kind, pastry and puddings, potatoes, carrots, parsnips, beets, rice, sago and other farinaceous articles, porter, stout and sweet ales, port and sweet wines.

Exercise and baths are essential adjuncts to dietary treatment in the reduction of corpulence. But the necessity for carefulness in the diet is increased by the fact that a corpulent person cannot usually take exercise sufficient to walk off the diet. If violent exertion be exhausting, digestion is interfered with; and at the same time the fat that unavoidably exists in the meat is assimilated, so that the fatty tissue grows, while the muscular and nervous strength is diminished. Many stout persons are already active; and any considerable addition to their activity would add to their discomfort, and possibly prove injurious. Hence the necessity for strict attention to regimen.

DIET FOR RICKETS.

Rickets is essentially a disease of mal-nutrition, and is not hereditary, as scrofula often is. It is a disease of early childhood, manifesting itself as early as the seventh to the eighteenth month, rarely after the twenty-fourth. Every organ of the body is implicated, although it is most manifest in the bones, which are deficient in lime-elements. They are therefore gelatinous, soft and yielding. This deficiency in the more substantial bony particles is caused by improper diet, and is only to be corrected by supplying what is proper. Rickets does not occur in children who are kept too long at the breast, but among those that are weaned too soon. It is not because they are supplied with milk, but because they are fed too soon on meat and vegetables. It is never so common as in babes that are weaned before the teeth are sufficiently forward, and fed on pap, potatoes, bacon and beef. It occurs far too commonly in the great centers of population, where mothers are induced to neglect their children in order to go to work, and especially in large manufacturing towns, where they go to mills far too soon after babies are born. For rickety children nothing can take the place of milk—first the mother's milk, if it be good; next comes milk diluted with water, and sweetened with sugar-of-milk; even skim-milk is better than none at all. And the milk may form a large proportion of the diet after the age of infancy is passed. Cod-liver oil, animal broths and fresh meat may then be given. The administration of a moderate quantity of finely scraped, raw beef, made into a palatable sand-

wich, salted and peppered, is much to be recommended. *Malt* or *barley-food* is specially suitable for rickety children. It may be prepared in the following manner: Four tablespoonfuls of *ground* malt should be boiled for ten minutes in a pint of water, the liquid poured off, and a pint of new milk added. The sediment from the husk, if finely ground need not be removed, as it is very nutritious and rich in bone-forming materials. Cod-liver oil has a specific action in this disease, but should only be given in small doses, ten to twenty drops at first, and the quantity gradually increased to a teaspoonful. During its administration the evacuations should be examined, for the appearance and odor of the oil in them are signs that the quantity should be reduced.

DIET IN HYSTERIA.

In this disorder the diet should be a generous, varied and highly nitrogenous one. Fish or bacon may be taken for breakfast, which will be generally more acceptable and better relished if a cold bath or spinal douche has been taken on rising. For the other meals the diet should be as nutritive as the digestive organs will permit without causing disturbance. But the chief point to be noted here is the disuse of wine, beer and spirits. The daily consumption of alcoholic beverages, for the debility from which patients imagine they suffer, should be strenuously opposed, for this, instead of conferring benefit, only tends to confirm the worst symptom of the complaint. There is, further, danger to be apprehended lest the patient should in time learn to enjoy the pleas-

urable sensations yielded by alcohol so highly that in the end she becomes an inebriate. A feeling of exhaustion or faintness from defective or perverted nervous supplies may indeed be removed by stimulants, but the exhaustion quickly returns, and with it the temptation again to seek relief by the same means. It is most difficult to persuade the patient that the sensations of faintness or exhaustion are really aggravated by stimulants, and that if she will abstain from the delusive draught and adopt rational methods of cure, nerve-power will return, and with it appetite and other normal functions.

“The best way of breaking off the habit of yielding to the perverted sensation which so insidiously cries for alcohol,” writes Dr. Chambers, “is immediately and altogether to relinquish it. Terrible sometimes is the struggle, yet it is a bracing and ennobling conflict; whereas the long-continued daily annoyance of giving it up little by little is on the whole quite as painful, and is often enfeebling to the mind. Moreover, courage is likelier to give way in a month than in a day.”

DIET FOR DIARRHEA.

In *recent* cases of *diarrhea* food should be given sparingly, consisting of light, non-irritating articles—gruel, rice, baked rice-pudding, arrow-root, arrow-root biscuits, Neave's food prepared with an extra quantity of milk, and other farinaceous substances, which should be taken *cool*. The temperature of food is very important; cold milk and lime-water will often arrest *infantile diarrhea*, when warm milk would be useless. If severe sickness be superadded, all preparations of milk may have to be

suspended for a few hours, and whey, veal-broth, Mellin's patent extract, water or barley-water substituted. Raw meat or juice sometimes acts favorably in diarrhea of young children.

In *chronic diarrhea* the diet should be nutritious, but restricted to the most digestible kinds of food; mutton, chicken, pigeon, game and white fish are generally suitable, if not over-cooked. Tender beef is not inadmissible in many cases. Pork, veal, and all tough portions of meat should be avoided. Starchy foods—arrow-root, sago, etc.—are insufficient for prolonged cases of diarrhea, but are improved by a mixture with good milk. *Old rice*, well boiled in milk, taken directly it is prepared, forms excellent nourishment. Raw or half-cooked eggs, and good, sound, ripe grapes in moderation, may generally be taken. Mucilaginous drinks—barley-water, gum-water, linseed-tea, etc., are the most suitable. Beer never agrees. *Milk and lime-water* or scalded milk constitutes the best diet; in feverish conditions it may be iced; soda-water may be occasionally substituted for lime-water. Restricting a patient entirely to this diet is often alone sufficient to cure most cases of diarrhea, not dependent on any organic cause. Even in the latter case much temporary benefit is generally gained. The alkaline milk-diet may be taken in small meals at regular intervals.

As an important accessory to the above, the application of a moderately tightly fitting flannel bandage around the abdomen is very valuable. Rest in the recumbent posture is especially desirable in acute cases.

DIET FOR DROPSY.

In acute dropsy the diet should be similar to that in acute fever; in chronic dropsy patients require nourishing diet to meet the exhaustion that commonly exists, but on account of that extreme feebleness, easily digestible food only should be taken. To allay the burning thirst often experienced, cold water is the best beverage; but any other that the patient desires, if not positively injurious, may be taken. Water may be said to be a real restorative, and may be taken *ad libitum*, for it increases the amount of fluids excreted to an extent greater than its own bulk; it also tends to improve the appetite and strengthen the pulse, while it diminishes the dropsical collections. It will thus be seen that the popular notion that drinking water increases dropsy is entirely erroneous.

DIET IN ECZEMA AND OTHER SKIN-DISEASES.

Cod-liver oil is a dietetic medicine of great value in eczema, especially in the chronic stage, and when attended with emaciation. Children will often take it greedily in its natural state. It may be given with safety to the youngest infant; or it may be given in the form of cod-liver oil chocolate. The daily use of vegetable food is a point that should be rigidly adhered to,

especially such as is eaten uncooked—lettuce, celery, water-cresses, etc.; for vegetables contain potash-salts, which are needed by the blood, but are abstracted in the process of boiling. The juice of meat is very valuable; it may be given alone as beef or mutton-tea, or mixed with other food. Salted and cured meats are decidedly objectionable, except fat bacon, which is recommended for breakfast. For infants the cod-liver oil is especially valuable; also good milk in large quantity, chicken-broth, etc. This provision of *fresh* meat and vegetables, combined with the use of pure, *soft* water for bathing, will be found very helpful in the relief of all cutaneous disorders.

DIET IN DISEASES OF THE LIVER.

As diseases of the liver are very frequently occasioned by errors in diet, careful regimen fills a most important place in the treatment of the functional disorders of that organ. Temporary disturbance and chronic derangement alike call for limitation in the articles of food. The morbid condition which is indicated by jaundice, its yellow discolorations, lassitude and sense of weight and fullness, must be met as much by prohibitions of diet as by prescriptions of medicine. As the two leading causes of diseases of the liver are too abundant, highly seasoned, stimulating diet and the habitual use of alcoholic drinks, these should be persistently avoided. Excesses at the table, which cause the introduction into the system of a great variety of noxious matters which clog the functional processes and overload the diges-

tive organs, must be supplanted by moderation and abstinence. Heavy meals, sweet and oily articles of diet, and alcoholic stimulants must not be allowed. A minimum quantity of albuminous food should be taken, in order that the quantity of uric acid may be lessened; and a minimum quantity of carbonaceous food, in order that the uric acid may be oxydized as much as possible. Great regularity should be observed in the hours of meals, and only light and nutritious food taken. When acute symptoms are present, chicken-broth, beef-tea, *toasted* bread scalded with hot water and flavored with a little sugar, roasted apples, and cold water *ad libitum*, constitute the most suitable diet. All food, when a more varied regimen is admissible, should be properly cooked, and the quantity taken should be proportioned to the amount of physical work that has to be performed; for one of the most common auxiliaries of liver-disorders is deficiency of out-door exercise and the maintenance of sedentary habits.

Those that are subject to diseases of the liver should studiously abstain from malt liquors, port-wine, champagne, and other strong wines and spirits. Entire abstinence will be attended with no serious results; there might be temporary inconvenience due to a craving for what had been habitual, which would be modified by a little coffee or tea, and would be speedily overcome; but abstinence at that cost would act beneficially on the functions of the liver. ^

DIET IN INFANCY.

Infancy is not naturally a period of sickness; but it is a time in which sickness is often induced by errors in diet. Indeed, there is no more fruitful source of suffering and death at this period than unsuitable or excessive feeding.

Milk is the natural food of infants, and nothing can altogether take its place. If the mother's milk be withheld, unless the milk of another carefully selected mother be substituted, the child will suffer. This alone contains the elements suitable for the growth of the infant, and in such form and proportions as can be digested; for during the first period of infancy all the digestive functions are not in operation. There are no teeth for the mastication of food, there is no saliva to dissolve it and facilitate its assimilation; while the stomach and intestines are in such a susceptible and delicate state, that they are easily deranged even by the unsuitable food which may be eaten by the mother. There are thus physiological indications that the digestive capacity is limited, and that no other food is suitable besides that which the Creator has provided in the mother's milk. When the teeth begin to appear and the maternal milk begins to fail, this may be supplemented by light farinaceous diet.

If the mother's milk fail and a substitute cannot be provided, the milk of the cow should be used, as it approaches most nearly to woman's milk in its constituent elements. It is of course important that the milk should come from a cow or from a dairy where the cows

are in a healthy condition and well cared for. It is a question whether or not milk should be always obtained from one particular cow, though this is desirable. But it is essential for the health of the infant that the milk be supplied from cows fed on wholesome food. It is also essential that the cow has not very recently calved. And the fresher the milk the better; for as the mother's milk deteriorates by remaining in the breast after the draught comes on, so the cow's milk is deteriorated by standing. New milk warm from the cow is the best for children at any age.

When given to the child the milk of the cow should be assimilated as nearly as possible to that of the mother. It should be diluted in the proportion of two-thirds of milk to one-third of soft, pure, *tepid* water, to each pint of which should have been previously added a drachm of sugar-of-milk (which being extracted from milk is far preferable to cane-sugar, and two grains of finely powdered phosphate of lime). If the milk has been skimmed, a large tablespoonful of cream should be added to each pint of milk; if not skimmed, the addition of two teaspoonfuls will suffice. After a time the proportion of water may be lessened. It is of importance that after the child has been fed the bottle be washed with a weak solution of soda, and that the teat be put into cold water, there to remain till wanted.

Condensed milk, *i. e.*, milk from which much of the water has been evaporated, and to which a large proportion of cane-sugar has been added, is now used to a large extent as a substitute for fresh milk. Its recommendations are that it is cheap, and always ready to hand for the preparation of a meal. But it is doubtful if in such preparation sufficient water is usually added, if the milk is not too much sweetened, and if infants fed on it do not acquire a plumpness which is due to the increase of

fat rather than of flesh. It is hard to say that it ought not to be used, especially when there is difficulty in obtaining a supply of fresh and pure cow's milk. In using it, it should be remembered that it is to be diluted not merely to the consistence of ordinary cow's milk, but to the substitute for woman's milk.

When dribbling commences and the teeth begin to appear, the infant may be fed on bread-sop, sweetened with sugar of milk, bread-crusts which he can suck and gnaw, plain biscuits, biscuit-powder, parched flour and rusks, or Neave's farinaceous food; but fancy-biscuits are objectionable. It is not till the glands secrete saliva that the child is able to digest starchy food.

And it may be observed that not only is the maternal milk the very best diet that a mother can give to her child, but the best part of it is when "the draught comes in." The reason for this is that it has just been secreted, and is therefore in the most refined and perfect condition. Every minute that it remains in the gland after secretion it deteriorates, for particles are separated which never reunite; and thus the assimilation by the child is less easy.

A little mutton-broth, weak beef-tea or chicken-soup may be occasionally added. But these additions to milk-diet should be only gradually made. Premature weaning is to be most strongly deprecated; its advantages are superficial, its evils lasting. It has been shown by M. Guerin that too early weaning is the most fruitful cause of rickets. The child may appear to be well, his muscles firm; he may be active and desirous to walk; but the bones have not grown, the limbs yield and become distorted. The bow-legged children so common in manufacturing districts suffer thus in consequence of neglect in infancy.

There are circumstances, however, which justify early

weaning. If the mother be a feeble woman, if she be subject to any acute disease or chronic affection, or if she show signs of suffering from continued lactation or nursing—such as headache, dimness of sight, shortness of breath, palpitation or night-sweats, the maternal nursing should be discontinued. And the discontinuance may be desirable at the end of the sixth month, or even of the first or second; for persistence in nursing is then prejudicial to both mother and child.

But the period of weaning should under ordinary circumstances be determined by the growth of the teeth and by the child's age. Milk should be the predominant food till the eye-teeth are cut; it is then not difficult to resume a diet of milk altogether, if in connection with dentition, or teething, there be diarrhea, convulsions or other ailments. From seven to twenty months of age farinaceous matters (flour-foods) may be mixed in gradually increasing quantities with the milk; but they should be well cooked first by being baked and then dissolved by boiling.

Prof. Buckingham is of opinion (and we quite agree with him) that a healthy mother should nurse her child until the first sixteen teeth are cut; and that if she cannot nurse it so long, it should have no other diet but milk. He states that careful observation has confirmed him in this opinion, for although early deaths may be produced by other causes, the great majority of infants who die fall victims in their second summer, when the changes due to teething are going on, and their stomachs have been *loaded with indigestible food*. Up to three years old, the quantity of flours may be increased and given as puddings with a little egg. Bread and butter may also be given, and towards the end of that time a well-boiled, mealy potato with a little red gravy may be given for dinner.

But no child should be allowed to touch animal food of any kind until its eye-teeth and first molars are developed. The late Sir C. Clarke used to say that the frequent infraction of this rule was worth \$50,000 a year to him; his practice lying chiefly among the children of the wealthier classes in England. After that age the quantity and quality of meat allowed should be carefully graduated according to the constitution of the child, those of a sanguine temperament requiring less animal and more farinaceous food, while the more robust and less sensitive need more solid nutriment.

One of the greatest mistakes committed in feeding children consists in giving them *too frequent meals*, or allowing them to be *continually* eating, particularly in allowing them sweetmeats and other indigestible articles to be consumed between meals. After two years of age, an interval of four hours between meals is rarely more than enough, and to give biscuit, fruit-bread or sweetmeats in the meantime is just subtracting so much from the digestive powers of the stomach which, like every other organ, *requires an interval of repose after action*.

And here we may add a very strong protest against the practice of giving (even occasionally) alcoholic stimulants to infants and children. The ignorance which prompts some parents to give their children beer, wine and even spirits, is marvellous as it is culpable. Such drinks are quite unnecessary; an immediate injury is inflicted on the child, and tastes and habits are formed which will prove baneful in after life. In proof that immediate injury is inflicted, the following fact may be cited: An ingenious surgeon tried the following experiment: he gave to two of his children, for a week alternately, to the one a full glass of sherry, and to the other a large orange. The effects that followed were

sufficient to prove the injurious tendency of various liquors. In the one the pulse was quickened, the heat increased, the secretions morbidly altered and the flow of bile diminished; while the other had every appearance that indicated high health. The same effects followed when the experiment was reversed, when the orange-girl took wine, and the wine-girl had an orange. The injury cannot be less decided when infants, with their delicate and susceptible organizations, sip the beer and wine their parents indulge in.

DIET IN OLD AGE.

With the decline of life there is a diminution of the activity of the secretions and of the assimilative functions. Disintegrated cell-tissue is but tardily repaired, and the muscles become soft, flabby and pale from an insufficient supply of blood; there is therefore a diminution of physical strength. The nervous functions are also only imperfectly performed. Hence it is necessary that there should be some modifications in the diet when a person has passed middle life. Very old people, and those who have lost their teeth, are in danger of swallowing food before it has been sufficiently broken up and moistened with saliva, thus giving rise to indigestion and imperfect assimilation.

Indigestible and innutritious articles of diet should therefore be studiously avoided. The items which were harmless in the vigor of life are now harmful, and must be eschewed. Heavy puddings and pastry overload the stomach. Meat should be tender and nutritious, with

the gravy in it; flesh firmer, of tougher fibre, and dried pieces should be left to younger consumers. Still there should be in flesh and vegetable sufficient solidity and tenacity to compel mastication, and thus promote the secretion of saliva and gastric juice. Soups and broths are nutritious, but they should not contain solid vegetables, which might be swallowed without previous solution by the salivary secretion.

If sleeplessness be troublesome, an egg, a sandwich or a few biscuits, with a little warm wine and water or a glass of bitter ale, the last thing before going to bed, will be found serviceable.

Attention should be paid to the teeth. These little organs of mastication perform a very important part in the preparatory process of digestion. Those that are sound should be preserved; those that are beginning to decay should receive the immediate care of the dentist. Artificial teeth are very valuable substitutes for lost natural teeth; and when a set has been procured, they should be examined every few months by the dentist so that they may be fitted to the shrinking gums, and their grinding surfaces kept in apposition. The roughness of those surfaces also becomes worn down, and consequently the trituration of food is incomplete. Teeth should be obtained not merely to improve personal appearance, but also to promote mastication and healthy digestion.

DIET FOR TRAVELERS.

One of the common errors of ordinary travelers is that they eat and drink too much on their way. For want of occupation, and under the excitement of traveling, more is eaten than a healthy appetite really calls for, more than the stomach can properly digest, and more than the system actually needs. In the course of a long journey it is sometimes necessary to time the refreshments by the stopping places at which they can be obtained; but as nearly as possible the ordinary periods for taking meals should be observed. Sandwiches, or some other light repast, will allay the appetite, and will meet all the requirements of the system in a state of repose, and when no physical or mental demands are made upon it. Warm coffee or tea is much to be preferred as a beverage to beer or spirits; the warmth is grateful to the consumer in cold weather, and the perspiration induced is cooling in hot weather, care being taken in the latter case not to sit in a draught. The stimulating effect of alcoholic drinks is undesirable for the drinker; while the exhalations therefrom are obnoxious to other travelers.

Invalid travelers are, however, more in danger of eating too little than too much. They have to guard against the exhaustion of fatigue as well as to maintain the tone of a system already enfeebled. And they are often so injudicious as to tax their powers of endurance to the utmost by attempting too much in the course of a day. In traveling, say, to winter in Florida and other parts of the south, there is often eager haste to reach the end of

the journey, involving needless and injurious fatigue. The day-journeys are often too long, the night-rest is often too short; and if the invalid travels by "easy stages," he is often guilty of the indiscretion of attempting a little sight-seeing, which is incompatible with the conservation of strength which is really needed. Premising that too much is not attempted, and that some friend relieves the invalid of all charge of luggage, tickets, etc., and secures prompt entrance into the waiting-rooms, we will point out what is desirable with reference to food. Arrangement should be made before starting for an ample supply of what may be required by the invalid, and in such form and manner that it may be taken when the appetite calls for it. An invalid should not have to wait for what may happen to be at the next station, with its hurry and excitement. A basket should be filled with essentials—a chicken, pheasant, ox-tongue, a plain cake, plain biscuits, butter, grapes and whatever the patient may and can take. Rolls can always be obtained at the hotels. The basket should also be replenished on the way. A little forethought will provide whatever is suitable, tasty, and easily handled in a railway train. The demands of appetite can thus be met when they are most keen, and the invalid is saved from irritation and exhaustion.

Travelers by sea should prepare themselves a few days before the voyage for the new conditions to which they will be subject. Besides taking such medicines as may improve the digestion, over-repletion, irregularity in taking food, rich and indigestible diet, and everything likely to disagree should be avoided. During the early part of the voyage, unless the weather be very fine or the traveler be used to the sea, he should remain in his berth in a *horizontal* posture, and take chiefly liquid food, such as beef-tea, chicken-broth or such light diet.

Champagne—iced if possible—is the best beverage if it suit the stomach. Soda-water, with a small quantity of brandy, often suits well. Drinking a tumbler of *tepid fresh water* facilitates sickness and thus brings prompt relief. When the sickness subsides and the appetite returns, a cup of good coffee without milk or sugar, with a plain biscuit or a small slice of toast, is often grateful.

DIET IN MATERNITY.

The expectant mother should make few changes in her diet, if it be simple, nutritious and easily digested. It is an error to suppose that she should eat and drink excessively. Quality is to be considered rather than quantity. Rich food does not nourish the infant, and may be productive of serious consequences. Whatever is taken should be thoroughly masticated, and accompanied by a little cold drink, as milk and soda-water. Animal food, plainly cooked, once a day, well boiled vegetables, ripe fruit and farinaceous puddings, will afford sufficient variety, and at the same time not disagree with the stomach. Highly seasoned dishes, salted and smoked meat, pastry, rich sauces and much raw fruit are objectionable. Strong tea and coffee, wines, beer, spirits and stimulants are usually injurious to mother and child. Everything that is likely to produce constipation should be avoided; while such food as small quantities of brown bread, biscuits and cooked fruits are to be taken to maintain a healthy action of the bowels.

The recent mother should be allowed to have as much good nutritious food as she desires, and can easily digest and assimilate. As soon after delivery as the appetite returns, substantial, nourishing diet may be given. If the appetite be poor (perhaps from exhaustion or want of fresh air, or want of exercise), it may be at once tempted by some simple but palatable food, without waiting for it to become stronger. A mutton-chop or the breast of a chicken, oatmeal-porridge, cold toast buttered, bread and butter, light farinaceous puddings, gruel, cocoa, black tea, etc., may be given. Many women have suffered from low, inflammatory symptoms and serious womb disorders from a too exclusive use of slops (liquid food), the system being insufficiently strengthened to rally from the physical exhaustion attending parturition, or labor. It should be distinctly understood that wholesome food is the best preventive of inflammation. Too much liquid food is likely to produce flatulence, distention and constipation, and to retard those physiological changes which take place after parturition.

The nursing-mother should abstain from whatever disagrees with herself or may be productive of discomfort to her infant. She should feed well, exercising discrimination in her choice of food, but not over-feed herself. Her meals should be regular, mastication complete, and natural appetite satisfied. If she be a small woman, and be habitually a small eater and have small children, she will not require so much as a larger and more robust mother. Highly seasoned or indigestible food, late dinners or heavy suppers, strong wines and spirits, should be avoided. It is by no means necessary that a very sparse and limited diet should be adopted, but there should be a judicious abstinence from whatever would disagree with herself or deteriorate her milk. Some self-denial must be practised for the sake of the child,

yet such kinds of food as goose, duck, salted meats, shell-fish, rich dishes and pastry should not be taken; but good meat, fowl, game, farinaceous vegetables and puddings may be eaten. To provide good milk, nothing is better than cocoa, cow's milk or milk and water; to satisfy thirst, barley-water, toast and water or plain water should be taken. But it is a great mistake to suppose that malt liquor or wine makes more or better milk. It adds nothing to the excellence of the secretion; on the contrary, it detracts from it, for it makes it watery, and the acidity and bitterness of the liquid drunk is prejudicial to the child. If a small quantity has been habitually taken, its use may be continued but not exceeded with the notion that the patient "requires more support" than is obtained from good joints, plain drinks, fresh air.

METHODS OF PREPARING FOOD.

The preparation of food by cooking subserves several very important purposes. It destroys some things that might prove injurious, destroying any parasitic germs that may exist. It renders food more pleasing to the sight more fragrant to the smell, more agreeable to the taste, and more digestible by the stomach. Flavor is developed, and the cohesion of tissues is lessened, so that the digestive juices can act more freely upon them. Previous beating and bruising of flesh facilitates the loosening process, and makes the meat more tender; hence the custom of beating chops and steaks. Warmth also aids digestion.

Cleanliness is the very first principle of cooking; tact in arranging and setting off the food is no mean accomplishment. In the preparation of food for the sick, greater care, if possible, should be exercised than in similar operations for the healthy. The slightest error in cooking may cause the loss of appetite at the very time when it is most needed. The fastidious taste and weakened stomach turn in disgust from what may be the most appropriate nourishment, often compelling doctor and nurse to seek some other which may be less suitable and less easily provided. Food prepared without the knowledge of a patient will generally be better relished than if he is first consulted as to what he will have, and how it is to be dressed. The cooking should be done at such a distance that no odor from it can come to the sick-room. The room itself is the last place in which food should be prepared if it can be done elsewhere.

Roasting on a spit is by far the best method of preparing food for the table. To retain the nutritive juices, the joint should be placed close to a clear, strong fire for five minutes *at first*, and then removed to a greater distance until the last five minutes, when it should be brought near the fire again. The albumen and extractive matters are thus hardened into a case, which keeps together the valuable fibrinous particles till they have undergone the desired changes by slow heat, while objectionable oils generated by the charring of the surface are carried off. The dripping is wholesome for the healthy, but (especially if at all burnt) is indigestible if the stomach be at all weak. When the joint is thoroughly roasted, the retained gravy will flow out freely at the first incision, and the meat, while yet red, will have lost all purple color even to the bone. The time of roasting depends partly on the kind of meat,

partly on the size and weight of the joint. Beef, mutton and goose require a quarter of an hour for each pound; veal and pork require an additional five minutes; poultry and game require less than this proportion. Lamb, veal, pork, chicken and the flesh of all young animals is better roasted, because it contains a large proportion of albumen and gelatine in the tissues, which is partly lost in boiling.

Broiling is roasting applied to small portions of meat. A beefsteak or mutton-chop should be done quickly on a gridiron over a clear, hot fire, free from smoke, so as to retain the juices; it should, therefore, not be pricked with a fork. Fish is best broiled.

Baking meat at a high temperature is but an imperfect method of roasting; imperfect, because it usually takes place in an oven, from which there is usually no escape for the volatile fatty acids which are generated. The meat, is, therefore, richer and stronger than when roasted before an open fire, and less adapted for weak digestion. If, however, the meat be enclosed in a thick pie-dish, a crust of some sort or a coat of clay (as Gipsies, Indians, etc., cook their joints and fowls), it is delicious. No charring then takes place; but all the fat and gravy, which generally ooze out, assist in the cooking. The process still goes on after the dish is removed from the oven, if it is kept hot by being enveloped in thick flannel, or put in a "*Norwegian nest*," or "self-acting cooking-apparatus." The "nest" is a box thickly padded inside with felt, so as to retain the heat in the enclosed vessel. It would often be very useful as an appurtenance of the sick-room. The "Cornish pastry," used in some parts of England, made of meat or fish, enveloped in a thick, solid crust, baked slowly, then packed in several layers of woollen material, will keep hot and delicious for several hours. Vegetables and fruit

should be likewise slowly baked. Eggs should be only sparingly used in baked dishes, because their albumen becomes more solid and indigestible with prolonged cooking.

Frying is usually objectionable because the fat in which the meat is cooked produces an excess of volatile acids; moreover it is often burnt, and thus changed in character and rendered indigestible, causing flatulence and heartburn. If, however, it be skilfully done, frying is a wholesome form of cooking food. The skill consists in frying "lightly," quickly and evenly, and with constant motion, so that the oil is not allowed to burn. A perfectly clean frying-pan; a clear, smokeless fire; good, pure, clean fat or clarified dripping, or a small quantity of oil, or genuine fresh butter, is essential. The fat should actually boil, the meat, fish and vegetables be turned about till they are lightly cooked without a scorch, then served hot with all the oil drained away; they are then nice and wholesome for most persons.

Boiling—There is a vast difference between boiling meat which is to be eaten, and meat whose juices are to be extracted for soup. In the former case the juices have to be kept in, in the latter drawn out. *Slow* boiling of a joint makes excellent nourishing soup, but spoils the meat by extracting all the goodness. *Quick* boiling also spoils the joint by hardening all the fibres. It should be plunged into *boiling* water, and kept at boiling temperature for five or ten minutes; cold water should then be added to reduce it to about 165° (which may be ascertained by putting any thermometer into the water) at which it should be maintained for the whole period of cooking. By the contraction and coagulation of albumen caused by the first plunge, the internal juice is prevented from escaping into the surrounding water, or from being diluted by its entrance through the pores.

Mutton and fish are best boiled in hard water, water to which salt has been added or sea-water. The scum which rises on the top of the water while meat is being boiled is always useless and unwholesome, and should be removed as completely as possible. Vegetables are best boiled; they should be thoroughly cooked, so as to become soft, then strained in a cullender, and served as free from water as possible. Cabbages and carrots can hardly be boiled too long. Soft water is essential for vegetables; steaming them is a form of boiling them in soft water.

Stewing occupies a middle position between roasting and boiling. The meat should be covered with cold water, then heated up and kept simmering, not boiling, till thoroughly done. The nutritive materials are diffused through the solid and liquid, which are then served up together. *Hashing* is the same process with meat previously cooked. But hashed, or otherwise twice-cooked meat, is very unwholesome.

There is another method of cooking, by which the meat is stewed in its own vapor alone. The meat is placed in a covered jar, the jar is put into water in a saucepan, and the water is made to simmer, and when a sufficient time has elapsed, the meat is done, quite tender and well adapted to the invalid.

Soups, Broths, Etc.—If it is desirable to extract the nutriment so that it may be given in the form of *broth*, the meat should be finely chopped or minced, put into cold water, soaked for a short time, then gradually heated to a temperature just *below* boiling-point, at which it should be kept for half an hour or more. But if *soup* be wanted, the heating should go on to boiling-point, and be maintained there, in order that the gelatine may be extracted to solidify the soup. It should be carefully observed that the minced meat should be put into

cold water for a time, never into boiling water at first. The leanest meat is the best for soup-making; the least particle of fat is out of place in broth or soups, and indeed renders it absolutely unwholesome as well as nauseous. Bones which require long boiling, yield abundant gelatine.

Salting meat makes it less nutritious, not by the addition of salt, but by the removal of the fluids and salts by the brine. The dried flesh is difficult of solution by the digestive secretions. Soaking in water softens it and removes the salt, but does not restore the nutritive value. The longer the salt remains in the tissues, the harder they become. *Drying* is less prejudicial to the meat; when the process is completed the meat becomes no worse until the decomposition sets in. *Smoking* imparts a flavor to dried meat which many prefer. *Meat preserved in tins* is too much cooked to be very digestible. It contains a good measure of nutritive elements, and is economical, but is not agreeable to every palate. It is best eaten only warmed up, not cooked again, and served with macaroni and vegetables.

The utensils employed in the preparation of food should be kept scrupulously clean. Cooks do not seem to be aware how often their dishes are unpalatable, and therefore unwholesome, solely from being prepared in a vessel which has a disagreeable flavor remaining in it. Those lined with porcelain should always be used in preference to those of plain iron or tin, which are not so easily cleaned, and are therefore likely to affect the flavor of the dishes. Still it must be admitted that they burn more easily, so that without close watching it is very difficult to boil milk in them. Soap is sometimes employed in washing pots instead of soda; and it is deemed sufficient to wipe out a saucepan with a dish-cloth, when it should be scrubbed out with a hard brush or metal

shavings. The grease of the soap and cloth adhere to the metal, and its rankness spoils the delicate flavor of something intended to tempt the appetite or satisfy the fastidious digestion of an invalid. Especially is it important that anything with strong and persistent odor, such as onions and other condiments should be cleansed from vessels, knives, etc., before they are used for another purpose. Food is the only thing that should come unexpectedly to the patient; it is always more enjoyed when it is thought to come from a neighbor or friend. Great care should be taken that no unpleasant flavor adheres to the food, and especially should scorching be avoided; volatile extracts or oils should not be employed for flavoring, the juice of stewed or preserved fruits is far preferable.

In cooking animal food about one-fourth of the weight is usually lost by the process; but the loss varies with the quality of the meat and the process employed. Dr. Letheby estimates the loss at the following percentages:

	BOILING.	BAKING.	ROASTING.
Beef, generally.....	20	29	31
Mutton, generally.....	20	31	35
“ Legs.....	20	32	33
“ Shoulders.....	24	32	34
“ Loins.....	30	33	36
“ Necks.....	25	32	34
Average.....	23	31	34

The loss arises principally from evaporation of water, the escape of fat and nutritive juice and the destructive action of heat. According to Dr. Letheby it is least in boiling, greatest in roasting, because in the former process there is no evaporation of water. This suggests that in the baking and roasting, endeavor should be made to prevent evaporation. Indeed, the perfection of cooking is to retain as much as possible of the constitu-

ent elements of the meat, and this is accomplished in the different methods adopted by subjecting the meat at first to a strong, quick heat, which contracts the fibres, coagulates the albumen at the surface, and thus closes up the pores by which the nutritious juices would escape. A lower and less rapidly acting heat will then suffice; for thereafter the cooking goes on through the agency of the natural moisture of the flesh. Converted into vapor by the heat, a kind of steaming takes place, so that whether in the oven, on the spit or in the midst of boiling water, the meat is in reality cooked by its own steam. When properly prepared, instead of being dried up or insipid, the meat will be full of its own juice, which will flow forth as rich gravy at the first cut.

Liebig's Extract of Meat—One small teaspoonful, dissolved in a pint of boiling water, forms a substitute for beef-tea when there is no time to make the tea, or convenience for making it properly. But to it should be added broth in which bones have been boiled, or some farinaceous substances, such as arrow-root, sago or tapioca, which have been thoroughly boiled. By itself the extract is more stimulating than nourishing, and is especially beneficial in cases of muscular exhaustion. It may prove useful in exhausting fevers or debility of the heart. Its stimulating effect is not followed by the reaction which attends alcoholic drinks.

A teaspoonful of Liebig's extract in a pint of barley-water, with a pinch of salt and flavoring, is very nourishing. A teacupful of milk in addition will make it more so. And a greater improvement is made when for the milk are substituted the whites of two eggs, beaten up with two tablespoonfuls of milk, and stirred in when the barley is sufficiently cool to be eaten.

Beef-Tea—1. Half a pound (or a pound, according to the strength required) of rump-steak should be cut up

into small pieces and put into a covered, enameled saucepan with one pint of cold water. Let this stand in a cool place for several hours, and let it then simmer gently for two hours. Skim well, and serve. If grease be specially repugnant, the last traces may be removed by lightly skimming the surface with pieces of white blotting-paper. If there be time, it is better to let the beef-tea get quite cold, and then remove the cake of fat.

2. The same proportions of beef and water, placed in an earthen vessel, lightly covered, and allowed to stand in a saucepanful of hot water near the fire for several hours, is a plan much commended.

3. Heat the meat and water gradually to the boiling-point, and then strain immediately.

4. In order to make beef-tea, or any extract of meat, quickly, economically and of a certain required strength, Dr. Leared recommends the use of a receiver having an air-tight screw-cover, with safety-valve and a boiler, similar to a Papin's digester. A small quantity of the beverage may be prepared as follows: One pound of beef, divested of fat, bone and gristle, and cut into very small pieces, should be put into the receiver, adding eight ounces of water, the cover screwed tightly on, and the receiver placed in the boiler, which has been filled with water. It should boil for three hours, when the receiver should be removed, and when sufficiently cool, the cover unscrewed. After squeezing the meat, now a tasteless mass, thirteen ounces of beef-tea, without any loss of aroma, and three times stronger than that prepared in the ordinary way, will be obtained. As experiments prove that one pound of beef will yield five ounces of meat-juice, the extract can be more or less concentrated by regulating the proportion of water. The preparation can be made in one-third of the time if salt be added to the water in the boiler. The extract of

course becomes gelatinous, and consolidates on cooling, when bones or the sinewy parts of meat are used; but gelatine, contrary to the popularly received opinion, is comparatively unimportant in nutrition.

5. Shred a pound of beef (with sausage-machine if possible); place it in a jar and add a saltspoonful of salt, place the jar in a saucepan so large that it may be covered with the lid. Mix exactly equal quantities of *boiling* and *cold* water; and of this put half a pint into the jar which contains the meat, and so much in the saucepan around the jar as to reach as high as the water inside the jar. Cover the saucepan with the lid and place it on the hearth, or where the heat of the water will be maintained; but not on the fire or stove, where it will be increased. Stir the meat every ten minutes or quarter of an hour; and in three quarters of an hour to an hour (if the meat has been minced in the machine) or longer, according to the fineness of the shredding, the first process of extraction will be completed; the jar should be taken out, the juice strained off through a hair-sieve or muslin, and set aside. The albumen, which coagulates at 135° , is thus secured. The meat left in the sieve should now be put into the saucepan with a quart of boiling water, covered, and slowly simmered for three hours; then boiled up and strained at once. The liquor strained off should be boiled down to half a pint, and when cooled down, mixed with the other half-pint set aside. The result is a pint of strong beef-tea, with all the soluble portion of the meat, and the albumen uncoagulated, ready for use. The fat may be removed while warm by white blotting-paper, or when cold in the solid cake. The beef-tea should be warmed up by placing what is required in a cup, and setting the cup in a basin of boiling water; but water should not be mixed with it (except to dilute it) nor should it be put on the

fire to boil. Flavoring may be added to taste. Coloring may be given by putting a thin slice of brown toast or a small piece of burnt onion in the saucepan, when the meat is set on to boil.

The meat used in any preparation for invalids should be as fresh as possible, and should be divested beforehand of all fat or gristle. If this precaution be neglected, a greasy taste is given to beef-tea, which cannot afterwards be completely removed. In re-warming beef-tea which has been left to cool, care must be taken to warm the tea up to the point at which it is to be served, and no higher; this is best done, not by putting it on the fire, but in a covered vessel placed in hot water. When once allowed to get cold, it never regains the agreeable flavor it possessed when fresh.

Rice (whole or ground), pearl-barley, vermicelli, sago or tapioca may often be advantageously added to thicken beef-tea.

Beef-Juice—1. Take a pound of rump-steak or leg of beef, cut up into pieces the size of dice; put it into a pint of cold water, into which previously mix twenty drops of hydrochloric acid and half a teaspoonful of salt. Cover up and let it stand in a cool place for two hours. Strain off the liquor (pressing the meat), and gently simmer for ten minutes. A tablespoonful will give more nourishment to a patient than a cupful of ordinary beef-tea. In extreme cases it might be given without being cooked. Beef-juice combined with albumen (white of egg) yields much sustenance in typhoid fever.

2. Shred the beef and put it into a jar (*no water*); tie up close, and put the jar into a saucepan of water, and let it *simmer*. Give the invalid one or two spoonfuls at a time; keep the jar in hot water. Make fresh when all goodness is extracted.

Beef-Essence—This is prepared as follows: A

pound of lean beef, free from skin, bone and fat, should be cut up into small squares, put into a large earthen jar with cover, the edges cemented with flour-paste, or the cover tied down tight with several thicknesses of paper; tied up tightly in a cloth; put into a saucepan so that the top of the jar is not reached by the water, and boiled from one to two hours; the liquid essence should be poured off from the coagulated muscle, let stand till cold, and the fat skimmed off. This contains a large quantity of nutriment, is generally pleasant to the palate, and is particularly valuable in *extreme exhaustion*. A few teaspoonfuls may be given every one, two or four hours.

Beef-Pulp—Instead of raw, *minced* beef, often recommended, scraped beef is far more easily digested, as it is free from sinews, and it is more palatable. It may be prepared as follows: Take a piece of steak cut like a little block, scrape the surface with a silver spoon until all the pulp is extracted, then cut a slice off the steak and scrape the newly cut surface again. One or two tablespoonfuls of the pulp may be given at a time to an adult. A desertspoonful may be given for one meal to children, mixed with red-currant jelly, or spread as a sandwich between bread. In the latter case it requires a sprinkling of salt and some pepper. Pulp thus prepared has been taken with great benefit in dyspepsia, chronic diarrhea and weakness following a long illness. It has also been given to consumptive patients with great advantage.

Mutton-Broth—1. This may be made in a similar manner to beef-tea, either plain or thickened. For this purpose, the best part of the sheep is the scrag-end of the neck, free from skin and fat, bruised and cut into small pieces.

2. Mutton-broth may be made either plain or thickened,

according to the taste of the patient. Bermuda arrow-root is an agreeable ingredient for thickening. Take half a pound of the scrag-end of neck of mutton; strip off all fat and skin; bruise thoroughly the meat and bone together with a chopper; then place the meat in a hollow dish, with just enough cold water (from a vessel previously containing a pint) to moisten the solid matter; add a teaspoonful of salt; cover over with a flat dish, and set aside for three-quarters of an hour; then remove the liquor and meat into a stewpan, and add the *remainder* of the water; place the stewpan close to the fire, until the contents just simmer, when begin to skim by passing three sheets of clean white paper over the surface. Maintain the simmering heat for an hour and a half, and strain through a hair-sieve.

Veal-broth—Veal-broth is barely palatable without the addition of a few vegetables. Take twelve ounces of good knuckle of veal, *quite fresh*; strip off all skin and *fat*; bruise the meat and bone together with a chopper; place in a hollow dish, and add a teaspoonful of salt and just cold water enough to moisten the meat (from a vessel previously containing a quart); cover over, and set aside for twenty minutes; then add the *remainder* of the water (from the vessel just mentioned); put the whole into a stewpan close to the fire; watch until it simmers, skim as directed for mutton-broth. Maintain the liquor at just simmering heat for an hour and a half, skimming cautiously; then pour off, strain through a hair-sieve, and prepare the vegetables. (If no vegetables are to be used, cut up two very thin, crisp slices of dry toast into small pieces; put them into a large breakfast-cup or small broth-basin, fill up with the hot liquor, add ten drops of lemon-juice, and serve.)

Calf's Foot Broth—Put a thoroughly cleaned calf's foot with a little lemon peel in three pints of water; sim-

mer for three hours ; then boil down to a pint and strain. Remove the fat when cold. For use, melt half a pint of the broth ; add an egg well beaten up with a little white, powdered sugar, not more than half an ounce of butter, and a little grated nutmeg ; stir these in the broth till it *thickens*, and serve at once. It should not boil.

Chicken-broth—Chicken-broth may be either served *plain* or *thickened*. If plain, it will always require a few slips of thin, crisp, dry toast to render it palatable ; for otherwise it is exceedingly insipid. Take a full-grown young chicken, picked, dressed, and *skinned* ; cut in halves, and to one-half add half a pint of water ; place in a hollow dish or basin ; cover over and set aside for twenty minutes ; then add a teaspoonful of salt and a pint more water ; place the whole in a clean saucepan near the fire ; watch till it simmers, and immediately begin to skim as directed for mutton-broth. Maintain at a simmering heat for an hour and a half, skimming continually ; pour off, and strain through a hair-sieve.

Veal-soup—A knuckle of veal, two cow-heels, a glass of sherry, two quarts of water and twelve pepper-grains. Stew in a covered earthen jar for six hours. Do not open it till cold, then skim off the fat and strain. Serve very hot.

Gravy-soup—Take a little carrot, turnip, onion and celery, with a clove and pepper : boil the whole gently, and strain, and for each half-pint of liquor add a table-spoonful of extract of meat, with a little salt.

Barley-soup—One pound of shin of beef, four ounces of pearl-barley, one potato, salt and pepper to taste, one quart and a half of water. Put all the ingredients into a pan, and simmer gently for four hours. Strain, return the barley, and heat up as much as required. A small onion may be added if not objected to.

Sardinian soup—Take two eggs, beat them up and

put in a stewpan, add a quarter of a pint of cream, one ounce of fresh butter, salt and pepper to taste, and as much flour as will bring it to the consistency of dough. Make the mixture into balls the size and shape of a nut, fry in butter, and put them into any sort of broth or soup, to which they make a very nice addition.

Baked soup—Cut a pound of lean beef into slices, add one ounce of rice, pepper and salt to taste, place in a jar with a pint and a half of water, cover closely and bake for four hours. If preferred, pearl-barley may be substituted for rice.

Egg-soup—Over a slow fire beat up the yolks of two eggs, a piece of butter as large as a big walnut and sugar to taste, with one pint of water, the water being gradually added as the ingredients become intimately mixed. As soon as the preparation begins to boil, pour it backwards and forwards to and from the saucepan and jug, till it is quite smooth and frothy.

Lentil-soup—Mix a tablespoonful of lentil-flour and a teaspoonful of corn-flour with a little milk, till as thick as cream. Boil three-quarters of a pint of milk sweetened and flavored to taste; pour this *slowly* on the flour and milk, stirring meanwhile. Boil all together for ten minutes, still stirring. A whipped egg afterwards added will improve the soup. Salt may be substituted for sugar. This is a most nourishing albuminous food, and a good substitute for beef-tea.

Eggs, Cream, and Extract of Beef—Wash two ounces of the best pearl-sago until the water poured from it is clear; then stew the sago in half a pint of water until it is quite tender and very thick; mix with it half a pint of good boiling cream and the yolks of four fresh eggs, and mingle the whole carefully with one quart of good beef-tea, which should be boiling. *This broth is very useful in cases of lingering convalescence after acute disease.*

Egg and Wine—1. Beat an egg with a fork till it froths, add a lump of sugar and two tablespoonfuls of water; mix well, pour in a wineglassful of sherry and serve before it gets flat. Half the quantity of brandy or whisky may be used instead of sherry.

2. Beat one egg to a froth with a tablespoonful of cold water; make a glass and a half of water and a glass of sherry hot, *but not boiling*; pour this on the egg, stirring all the time; add sufficient sugar to sweeten. Put all into a lined saucepan, set it on a gentle fire, and stir it *one way* till it thickens, *but do not let it boil*. Serve in a glass, with crisp biscuits or “fingers” of toast.

Egg-Pudding—Beat up one egg with a teaspoonful of flour and sufficient milk to fill a basin rather larger than a teacup; tie the basin and contents in a cloth, and boil for twenty minutes. Milk, sugar or red gravy may be added when served.

Minced Fowl and Egg—Remove all skin and bone from a cold roast-fowl, mince the flesh; put bones, skin and trimmings into a stewpan, with one small onion if agreeable to the patient, and half a pint of water: let this stew for an hour, then strain the liquor. Chop a hard boiled egg small and mix with the mince: salt and pepper to taste: three tablespoonfuls of new milk or cream, half an ounce of butter, one tablespoonful of flour and a teaspoonful of lemon-juice; to this add the gravy, let the whole just boil, and serve with toasted bread.

Panada—Take the crumbs of a stale French roll, soak it in milk for half an hour, then squeeze the milk from it; have ready an equal quantity of cold cooked chicken or lean sirloin of beef, or loin of mutton *scraped* very fine with a knife; pound the bread-crumbs and meat together in a mortar; season to taste; cook either with veal or chicken-broth, in a tin put in a warm oven, or poach like an egg. Serve on mashed potato.

Potato-Surprise—Scoop out the inside of a sound potato, leaving the skin attached on one side of the hole, as a lid. Mince up finely the lean of a juicy mutton-chop, with a little salt and pepper, put it in the potato, pin down the lid, and bake or roast. Before serving (in the skin) add a little hot gravy if the mince seems too dry.

Stewed Eels—Wash and skin an eel, cut it in pieces two inches long, pepper and salt them and lay in a stew-pan, pour on them half a pint of strong stock and half a glass of port-wine, stew gently for half an hour, lift the pieces carefully on to a very hot dish and place by the fire, strain the gravy and have ready two tablespoonfuls of cream mixed with sufficient flour to thicken it, stir this into the gravy, boil for two minutes and then add a little Cayenne. Pour over the eels and serve. Sometimes the addition of a little lemon-juice is gratifying to the palate.

Fried Soles—Skin them, wash and wipe them dry, dip them in beaten egg, then strew over with bread-crumbs. Have ready a pan of fine olive-oil, and be sure it boils before you put in the soles; fry a light brown and then turn over once; lay them on napkins for the oil to drain off: serve with plain, melted butter.

Broiled Soles—Skin them, wash and wipe dry, broil on a gridiron over a clear fire: a very little butter may be smeared over the surface to prevent it catching too quickly. Serve with melted butter.

Stewed Oysters—Half a pint of oysters, half an ounce of butter, flour, one-third of a pint of cream, and salt to taste. Scald the oysters in their own liquor, take them out, and strain the liquor. Put the butter into a stewpan, dredge in sufficient flour to dry it up, add the oyster-liquor, and stir it with a wooden spoon over a sharp fire. When it boils, add the cream, oysters and

seasoning, and simmer for one or two minutes, but *not longer*, or the oysters will harden. Serve on a hot dish, with toasted bread. A quarter of a pint of oysters, the other ingredients being in proportion, make a dish large enough for one person.

Suet and Milk—1. Put a tablespoonful of shredded beef-suet into half a pint of fresh milk; warm it sufficiently to completely melt the suet, skim it, then pour it into a warm glass or cup, and drink before it cools. *This recipe will be found valuable in cases where fat is essential, for weakly children, neuralgic patients, and also in falling off of the hair.*

2. Chop an ounce of suet very fine, tie it loosely in a muslin bag, and boil it slowly in a quart of new milk; sweeten with white sugar.

Suet and Barley-water—Chop an ounce of suet very fine, tie it loosely in a muslin-bag. Place this in a pint of thin barley-water, with a quarter of an ounce of isinglass or gelatine, and a little sugar; and boil all together for an hour, adding warm water occasionally as it boils away. Pour the barley-water on a dozen sweet almonds, pounded fine, and mix well. Then strain.

Lime-water and Milk—Lime-water, two teaspoonfuls to half a tumblerful of milk. Add a little sugar to taste. *This compound will often be retained when the stomach rejects all other kinds of food. The same may be said of milk and soda-water in equal proportions.*

Artificial Ass's and Goat's Milk—Take half an ounce of gelatine, and dissolve it in half a pint of hot barley-water. Then add an ounce of refined sugar, and pour into the mixture a pint of good, new, cow's milk.

Milk, Rum, and Isinglass—Dissolve in a little hot water over the fire a pinch of the best isinglass; let it cool; mix with it in a tumbler a dessertspoonful of rum, and fill up the glass with warm new milk.

Toast is rarely made well. Bread burnt on both surfaces, with the inside spongy, is unwholesome food. It should be of moderate thickness, slowly and thoroughly baked through, nicely browned on the outside—in short, not toasted too fast. Such toast is wholesome to eat or to soak in water.

Bread-crumb Pudding—Put a thin slice of bread into a cool oven, and when perfectly dry roll it till it becomes a fine dust. Beat up one new-laid egg with a desertspoonful of powdered loaf-sugar; add three table-spoonfuls of new milk, put in the crumbs and beat the mixture well up for ten minutes. Put the pudding in a basin previously rubbed with butter; now tie a cloth tightly over, place it in boiling water, and boil for thirty minutes.

Bread-Pudding—1. Part of a *stale* loaf of bread, boiled and served with butter and salt, or with preserves, affords a change of wholesome food. Bread-puddings made with eggs and milk, either boiled or baked, may be made according to the recipe used at Westminster Hospital: Bread, $\frac{1}{4}$ lb.; milk, $\frac{1}{4}$ pint; sugar, $\frac{1}{4}$ oz.; flour, $\frac{1}{4}$ oz.; 1 egg for every 2 lbs. Puddings made in the same way of stale sponge-cakes or rusks, diversify the diet.

2. Pour half a pint of boiling milk on a French roll. Cover close and let it stand till it has soaked up all the milk. Tie up lightly in a cloth and boil for a quarter of an hour. Turn it out on a plate and sprinkle a little sugar-candy over it. The addition of burnt sugar or tincture of saffron will give it the orthodox yellow color.

Macaroni—Wash two ounces of macaroni, boil it in a quarter of a pint of milk and the same quantity of good beef-gravy till *quite* tender. Drain, and put the macaroni on a very hot dish and place by the fire. Have ready the yolk of an egg beaten with two tablespoonfuls

of cream, and two tablespoonfuls of the liquor the macaroni was boiled in; add half an ounce of butter. Make this sufficiently hot to thicken, *but do not allow it to boil*; pour it over the macaroni, and strew over the whole a little finely grated cheese; or the macaroni may be served as an accompaniment to minced beef, without the cheese; or it may be taken alone with some good gravy.

Macaroni-Pudding — Three ounces of macaroni should be soaked for forty minutes in cold water, well mashed, then added to a pint of boiling milk. This should be stirred occasionally, while it simmers for half an hour; then two eggs added, beaten up with a dessert-spoonful of sugar; also, if desired, a flavoring of lemon. This may then be baked in a pie-dish for twenty minutes. *Vermicelli* may be used instead of macaroni, but requires only twenty minutes' soaking.

Boiled Rice—Put one teacupful of rice into a saucepan with one-fourth of a cupful of water, cover; and place it over a good fire; after an hour the water will be evaporated, and the rice cooked tender but dry, and with the grains distinct, not in a paste. Sufficient salt should be added in the first place, and care should be taken not to disturb the rice when cooking. By adding a little butter and allowing the rice to dry a little more, a more delicate dish is prepared.

Ground-Rice Pudding—Boil half a pint of new milk with two ounces of loaf sugar; moisten two tablespoonfuls of ground rice with three of cold milk. When this is well mixed, then stir the boiling milk into it; put into a clean saucepan and stir over the fire for twelve minutes, and then let it get cold. Beat three new-laid eggs, yolks and whites separately; stir the yolks with the rice, and if allowed by the medical man, two tablespoonfuls of cream. Beat the whites to a stiff

froth, add them and beat the mixture for five minutes. Rub a pie-dish with butter, pour in the mixture, and bake in a quick oven for some eighteen minutes, then serve at once.

Rice-cream—To a pint of new milk add a quarter of a pound of ground rice, a lump of butter the size of a walnut, a little lemon-peel, and a tablespoonful of powdered sugar. Boil them together for five minutes, then add half an ounce of isinglass which has been dissolved, and let the mixture cool. When cool add half a pint of good cream, whisked to a froth, mix all together, and set it for a time in a very cool place or on ice; when used, turn it out of the basin into a dish, and pour fruit-juice round it, or some stewed apple or pear may be served with it.

Pearl-Barley—1. It should be boiled for four hours, so tied in a cloth that room is left for the grain to swell. Only so much water should be added from time to time as to feed the barley and supply the waste of evaporation, lest the goodness of the barley should be boiled out. It may be served with milk, or (if the patient can digest them) with preserves or butter.

2. Put the barley with water in a stone-jar with a lid, place the jar in the oven, and let the contents boil gently until the barley is *very* soft; then strain.

Gruel—1. A dessertspoonful of prepared groats or fine oatmeal to be moistened with a tablespoonful of cold water, and stirred till smooth; then add, by degrees, three quarters of a pint of boiling water, and stir over the fire till it boils, then let it simmer for eight or ten minutes. A little salt or sugar and butter may be added according to the taste of the invalid. Boiling milk may be added instead of water; but it must be constantly stirred.

2. Beat up an egg to a froth, add a wineglassful of

sherry, flavor with a lump of sugar and a strip of lemon-peel, and have ready some gruel, very smooth and hot, stir in the wine and egg, and serve with crisp toast. Arrow-root may be made in the same way.

Porridge—Always use coarsely ground, Scotch oat-meal. Mix two tablespoonfuls of it with a small tea-cupful of cold water till it is of uniform consistence. Then pour in a pint of boiling water, and keep boiling and stirring it for forty minutes. It is then fit for use, but may be kept simmering till wanted, if more boiling water be added as the other steams away. It should be served in a soup-plate quite hot; cold milk may be taken with it. Butter may also be added to taste, if not contra-indicated. Most Scotch people sprinkle the meal into boiling water.

Arrow-root—Moisten two teaspoonfuls of arrow-root with two tablespoonfuls of cold milk. When it is quite smooth pour in half a pint of boiling milk; then place it in a bright saucepan, and stir over the fire for three or four minutes. Two or three teaspoonfuls of powdered loaf-sugar may be added to sweeten it. Wine or brandy will frequently, be prescribed with arrow-root: it must of course be added in the proportions ordered.

Sago—Put a dessertspoonful of sago into three-quarters of a pint of cold milk, and simmer gently, stirring frequently, for an hour and a quarter; skim as it approaches boiling, and sweeten with a dessertspoonful of powdered loaf-sugar.

Tapioca and Cod-Liver—Boil a quarter of a pound of tapioca till tender in two quarts of water; drain it in a cullender, then put it back in the pan; season with a little salt and pepper, add half a pint of milk, one pound of fresh cod-liver cut in eight pieces. Set the pan near the fire to simmer slowly for half an hour or a little more, till the liver is quite cooked. Press on it with a

spoon, so as to get as much oil into the tapioca as possible. After taking away the liver, mix the tapioca. If too thick add a little milk, then boil a few minutes, stir round; salt and pepper to taste. *Tapioca thus cooked is nourishing and easily digested.*

Carrot-Pap—In Bednar's "Kinder-Krankheiten" the following formula occurs for carrot-pap, which is strongly recommended for children suffering from scrofula, rickets and worms, and is also suitable for patients recovering from acute diseases, and for dyspeptics.

An ounce of finely grated carrot should be put into half a pint of cold, soft water, and should stand twelve hours, being frequently stirred; it should then be strained through a sieve, and all the juice pressed out. This juice is then to be thickened with grated bread or arrow-root, and to be set upon a slow fire. After boiling up once or twice it should be sweetened, and is then ready for use.

The juice of the carrot combined with plain water, biscuits or crusts of bread, contains all the material that is necessary for the nourishment of weaned children or weakly persons—albumen, starch, gelatine, sugar, fat and salt, and finally even the phosphate of lime and phosphate of magnesia. In the preparation of this food the greatest cleanliness must be observed. The juice must be prepared fresh every day, and must, moreover, be carefully watched, lest fermentation ensue. The large and full-grown carrots are preferable to the young and small.

Bread-Jelly—1. Take the crumb of a loaf, cover it with boiling water and allow it to soak for some hours. The water, containing all the noxious matters with which the bread may be adulterated, is then to be strained off completely and fresh added; place the mixture on the fire and allow it to boil for some time till it is perfectly

smooth. The water is then to be pressed out, and the bread on cooling will form a thick jelly. Flavor with anything agreeable. A good food for infants at the time of weaning, also for children with acute diseases.

2. Cut off the top of a five-cent loaf of bread. Cut the remaining part into thin slices, and toast them of a *pale* brown, *very hard*. Put the bread thus toasted into nearly three pints of water and boil *very* gently, until you find it well set, which you will know by holding a little in a spoon; strain it off very carefully, without breaking the bread, or the jelly will be thick. Sweeten to your taste. It never disagrees with and is very good for infants.

Pearl-Barley Jelly—If pearl-barley be boiled for six hours, then strained off, the water on cooling will form a nutritive jelly, which dissolves readily in warm milk. It is very well adapted to infants.

Nutritive Jelly—Isinglass, 1 oz.; gum-Arabic, $\frac{1}{2}$ oz.; white sugar-candy, 1 oz.; port-wine, 1 pint; $\frac{1}{4}$ nutmeg, grated. These should be put in a jar to stand twelve hours, covered tightly to prevent evaporation, then placed in a saucepan with sufficient water to simmer till the contents of the jar are quite melted; the whole should be stirred, then allowed to stand till cool. A teaspoonful occasionally is very reviving.

Orange or Wine-Jelly—A small packet of prepared gelatine should be soaked in one pint of cold water for an hour or more; three pints of boiling water should then be added with a pound and a half of sugar, the juice and grated rind of three or four oranges; the whole should be stirred together until the gelatine is dissolved and intermixed, strained through a clean cloth (jelly-bag), and allowed to cool.

If wine-jelly be preferred, it may be made in the same manner, adding sherry, Madeira or other pure

wine instead of oranges, and proportionately lessening the quantity of water.

Invalid's Jelly—Soak twelve shanks of mutton in plenty of water for some hours, clean well, put them into a saucepan with one pound of lean beef, a bunch of sweet herbs, pepper and salt to taste, one onion and a crust of bread toasted brown; add three quarts of water and let them simmer gently for five hours. Strain the broth: when cold take off all the fat.

Tapioca-Jelly—The tapioca should be soaked in cold water for several hours, and then cooked until perfectly clear, adding more water if necessary. When done sweeten to taste, and flavor with vanilla, lemon or wine. When cold serve plain or with cream.

Chicken-Jelly—Half a raw chicken, pounded with a mallet, bones and all together; cold water to cover it well; heat slowly in a covered vessel, and let it simmer until the meat is in white rags and the liquid reduced one-half; strain and press through a coarse cloth; season to taste, return to the fire, and simmer five minutes longer; skim when cool. Give to the patient cold, with unleavened wafers.

Arrow-root Jelly—One cup of boiling water, two teaspoonfuls of Bermuda arrow-root, one teaspoonful of lemon-juice, two teaspoonfuls of white sugar. Wet the arrow-root in a little cold water and rub smooth; then stir into the hot water, which should be on the fire and actually boiling at the time, with the sugar already melted in it; stir until clear, boiling steadily all the time, and add the lemon. Wet a cup in cold water, and pour in the jelly to form. Eat cold with sugar and cream.

Arrow-root-wine Jelly—One cup of boiling water, two teaspoonfuls of arrow-root, two teaspoonfuls of white sugar, one tablespoonful of brandy or three of wine.

Proceed as with preceding recipe. An excellent corrective for weak bowels.

Jelly-Water—One large teaspoonful of blackberry-jelly, one tumbler of ice-water; beat up well. Excellent for fever patients, or those suffering from gastric irritation.

Iceland-Moss Jelly—One handful of moss well washed, one quart of boiling water, the juice of two lemons, one glass of wine, one quarter of a teaspoonful of cinnamon. Stir the moss (after soaking it an hour in a little cold water) into the boiling water, and simmer until it is dissolved; sweeten, flavor and strain into moulds. *Good for colds, and very nourishing.*

Oatmeal-Tea—Pour a pint of boiling water on a tablespoonful of oatmeal, sweeten with honey and flavor with the rind of a lemon, cut very thin. Stir it up, and let it stand till cool and clear. It can be warmed for drinking if required.

Barley-Water—Wash a tablespoonful of pearl-barley in cold water; then pour off the water and add to the barley two or three lumps of sugar, the rind of one lemon, and the juice of half a lemon; pour on the whole a quart of boiling water, and let it stand covered and warm for two or three hours; then strain it. Instead of lemon, currant-jelly, orange-juice or sliced licorice may be used to flavor. Barley-water is a valuable demulcent in colds, affections of the chest, etc.

Gum-Water—One ounce of gum-Arabic, half an ounce of loaf-sugar, to one pint of cold water; should stand near the fire so as to be kept warm, and be occasionally stirred until the gum is all dissolved, and should then be allowed to cool, and will form an agreeable and nourishing drink in fevers. Lemon-peel or fruit-syrup may be added to flavor.

Linseed-Tea—1. This is often a useful drink for

soothing irritation set up by the cough of consumption, bronchitis or pneumonia, and for the irritation of diarrhea, dysentery, inflammation of the bowels. It is prepared by adding one ounce of bruised linseed and a half-ounce of sliced licorice-root, to two pints of boiling water, and boiling in a covered vessel near the fire for two or three hours; it should then be strained through a piece of muslin, and one or two tablespoonfuls taken as often as necessary. Sliced lemon and sugar-candy will make it more palatable.

2. Linseed one ounce, white sugar one ounce, licorice-root half an ounce, lemon-juice two tablespoonfuls. Pour on the ingredients two pints of boiling water, let them stand in a hot place for four hours, then strain.

Malt-Tea—Boil three ounces of malt in a quart of water. *In fever cases where the mouth is very dry.*

Rice-Water—The best Carolina-rice should be washed with cold water, then boiled in a good measure of water for ten minutes, the water strained off, and more added; and so on till the goodness is boiled out of the rice. The water is ready to drink when cold. Cream may be added if there be not high fever: a pinch of salt also, if desired, or flavoring as for barley-water.

Toast-Water—1. This is not often well made. A slice of stale bread (crust is better) should be slowly baked through (not burnt), then put in a jar with a quart of boiling water poured over it, and allowed to stand covered till cool. It may be flavored with lemon-peel.

2. Toast slowly a *thin* piece of bread until it is extremely brown and hard, but not black, put it in a jug of *cold* water, and cover it for an hour before using.

White-Wine Whey—Put two pints of new milk in a saucepan, and stir it over a clear fire till it is nearly boiling; then add a quarter of a pint of sherry, and simmer

for a quarter of an hour, skimming off the curd as it rises. Then add a tablespoonful more sherry, and skim again for a few minutes, till the whey is clear: sweeten with loaf-sugar, if required.

Tamarind-Whey—Stir two tablespoonfuls of tamarinds in a pint of milk whilst boiling; when the curds are formed, strain off. It is a cooling and slightly laxative drink.

Whey may also be made by heating milk till it almost boils, then adding the juice of an orange or lemon, or a couple of juicy apples cut in slices, or a large tablespoonful of vinegar, molasses or honey; or sufficient powdered alum or cream of tartar, or tartaric or citric acid, to cause curdling; finally, straining and sweetening to taste.

Iceland-Moss and Milk—Soak an ounce of Iceland-moss in half a pint of hot water for a quarter of an hour, strain, then boil the moss in a quart of water till it is reduced to a pint; strain again, and boil the liquor (without the moss) down to a third of a pint. Mix this with half a pint of hot milk, sweeten and flavor to taste.

Rice-Milk—If milk be plentiful, the rice may be boiled in milk; if not, boil it in water to plump and soften it, and when the water is wasted put in the milk; taking care that the rice in thickening does not stick to the saucepan. Season with sugar and a piece of cinnamon. A bit of lemon or orange-peel will give zest.

Sago-Milk—Soak the grains in water for an hour before boiling, or boil first in water for two or three minutes, which water pour off. Boil a large spoonful in a quart of new milk; sweeten and season to taste. Ground rice may be prepared in the same way and smaller quantities used.

Milk and Meal—Mix a large teaspoonful of either parched flour or corn-flour, or arrow-root or other farina-

ceous food, as may be indicated by special symptoms, in a little cold milk; heat a pint of milk, and when it is about to boil, add to it the farinaceous preparation and keep stirring while all boils together for five minutes. Sweeten with sugar, and flavor with lemon or nutmeg, according to taste. This is very useful when beef-tea, eggs and light puddings cannot be taken; the milk is more nutritious than when taken by itself, and is less liable to turn sour.

The quantity of flour, etc., may be raised. The ordinary proportion is a large desertspoonful to half a pint of milk.

Lemonade—Well rub two or three lumps of sugar on the rind of a lemon, squeeze out the juice, and add to it nearly a pint of cold or iced water; or better, one or two bottles of soda-water.

2. A lemon should be cut into slices, and put into a jar with several pieces of loaf-sugar. A pint of boiling water added, covered, and allowed to cool. After straining, it is fit for use. This beverage is recommended to allay thirst, irritation of the throat, etc. It may be made to effervesce by the addition of a very little carbonate of soda.

3. Three pounds of loaf-sugar, $1\frac{1}{2}$ pints of water, 2 ozs. of citric acid, 60 drops of essence of lemon-peel. Put the sugar into an enameled saucepan, and pour the water on it; *just* boil it. When *half* cold put in the citric acid and stir with a silver spoon, and add the essence of lemon-peel. A tablespoonful to a tumbler of water. When the lemonade is cold bottle it.

Linseed-Lemonade—Four tablespoonfuls of whole linseed, one quart of boiling water, juice of two lemons. Pour the boiling water upon the linseed and steep three hours in a covered vessel; sweeten to taste; if too thick add cold water with the lemon-juice. It is *admirable for colds*.

Nitric Lemonade—Twenty to thirty drops of *dilute nitric acid* should be added to eight ounces of pure cold water, and flavored with honey or loaf-sugar; from a teaspoonful to a tablespoonful, according to age, may be given two or three times daily. Nitric lemonade modifies sickness in whooping-cough, and is useful in some cases of bronchitis, consumption, coughs from relaxed palate, night-sweats, etc.

Egg-Nogg—The yolks of two eggs and half an ounce of sugar should be thoroughly rubbed together; then add four ounces of the best French brandy and four ounces of cinnamon water, and mix well.

Flummery—To any quantity of oatmeal you like to infuse put double the weight of warm water; stir well, and let the mixture infuse for four or five days in a warm temperature; add more water, stir up and strain. Let the liquid stand till the starch falls down in a white sediment, pour off the water, and mixing as much of the starch or sediment as is wanted with water to thin it, boil, stirring briskly for a quarter of an hour till a jelly is formed. It is eaten with milk, butter or cream, and by convalescents with wine or milk as prescribed.

White Caudle—Mix two large tablespoonfuls of finely ground oatmeal in water two hours previously to using it, strain it from the grits and boil it, sweeten and add wine and seasoning to taste; nutmeg or lemon-juice answers best.

Apple-Water—To juicy apples sliced, add a little sugar and lemon-peel; pour over them boiling water; strain when cold.

Cream for Stewed Fruit—Boil an ounce and a half of isinglass in a pint and a half of water over a slow fire till there is only half a pint. Strain and sweeten, add a glass of sherry, and stir in half a pint of good cream; stir till cold.

Fruit-Cream—Gooseberries, apples, rhubarb or any fresh fruit may be used. To every pint of pulp add one pint of milk or cream; sugar to taste. Prepare the fruit as for stewing, put it into a jar with two tablespoonfuls of water and a little good, moist sugar. Set the jar in a saucepan of boiling water, and let it boil until the fruit is soft enough to mash. Then beat it to a pulp and work this pulp through a cullender. To every pint stir in the above proportion of milk or cream; if obtainable the latter is of course preferable.

Cocoa from Nibs—To produce cocoa from nibs, one of the most wholesome and nutritious of beverages, the following method is recommended. For two persons, take of Fry's No. 1 nibs a small teacupful, and soak them in one quart of water overnight; next morning boil briskly for two hours, then strain off, and use directly with boiling milk. It should not be re-warmed, as it loses its flavor, just as tea does when warmed up again.

The best way of boiling it is in a block-tin, three-pints wine-muller, over a small gas-stove; or, better still, the new French milk-saucepan, which consists of white ware fitted into an outside tin casing. The cocoa nibs, already soaked, as previously directed, should be put with a proper quantity of water into the white ware, the outside vessel being also filled with water, and boiled for two hours.

Nutritious Coffee—Dissolve a little isinglass in water, then put half an ounce of freshly ground coffee into a saucepan with a pint of new milk, which should be nearly boiling before the coffee is added, boil both together for three minutes; clear it by pouring some into a cup and dashing it back again, add the isinglass and leave it to settle for a few minutes. Beat up an egg and pour the coffee upon it; or, if preferred, drink it without the egg.

Nutrient Enema—Take of beef-tea half a pint, and thicken it with a teaspoonful of tapioca. Reduce $1\frac{3}{4}$ ozs. of raw beef to a fine pulp, pass it through a fine cullender, and mix the whole with twenty grains of acid pepsin (Boudanlt's *poudre digestive*), and four grains of diastase (or a dessertspoonful of malt-flour); where the latter is used the tapioca may be omitted.

It should have a bright rose-tint, and exhale a rich, meaty odor. Not more than a quarter of a pint should be used at a time, and that slowly.

Pending the arrival of the pepsin and the malt, the other portions of the liquid may be administered alone.

Egg and Sugar-Enema—Beat up the yolks of two eggs with two wineglassfuls of hot water in which an ounce of lump-sugar has been dissolved.

Oil and Sugar-Enema—Gradually rub up half an ounce of gum-Arabic with two tablespoonfuls of water; then gradually add and rub in two tablespoonfuls of olive-oil or cod-liver oil; then stir in a wineglassful of hot water in which an ounce of lump-sugar is dissolved.

Panada—Slice the crumb of a loaf very thin, and soak or boil it gently in water. When soft, beat it up well and add sugar, and if allowed, wine; a little butter may also be added. Panada may also be made of chicken-broth instead of water and seasoned with a little mace, and is excellent for invalids.

DIVISION SECOND.

MEDICAL PLANTS, OR MATERIA MEDICA.

PREFATORY.

In this division we give directions for preparing and using all the medical plants now known, together with their botanical description, and with the addition of a large number that are new, and have not as yet been employed in medical practice.

During the past ten years there have been more discoveries of medical plants, and greater progress made in applying them to the cure of disease, than *during* any previous similar period of time. We are, therefore, now enabled to give about one hundred more medical plants than have heretofore been offered to the public. If the acquisition and presentation to the public of new and important remedies is a matter of worth and merit, then we may justly claim a superior excellence for this department of the book, over anything heretofore presented.

For our knowledge of many of the *New Remedies*, we are chiefly indebted to the publications of Parke, Davis & Co., of Detroit, Michigan, prominent among which are *Cascara Sagrada*, *Grindelia Robusta*, *Grindelia Squarosa*, *Yerba Reuma*, *Berberis Aquifolium*, *Rhus Aromatica*, *Jamaica Dogwood*, *Kava-Kava*, and many others. Any further information with regard to these medicines may be obtained from the printed circulars of these parties.

ACONITE—Monk's Hood (*Aconitum Napellus*).

Aconite.

Part used—The whole plant.

This is one of the most valuable remedies in the *Materia Medica*, in all cases of fever. It is an invaluable remedy in neuralgia, nervous affections, inflammatory rheumatism, some forms of palsy, dropsy, etc.; being more frequently useful in the treatment of disease than any other drug in the whole list of remedies. The tincture is the preparation of it most commonly employed, the dose of which is from half a drop to five drops every two to four hours. It is a poison and should never be given in large doses.

The tincture, diluted with water and applied externally, and, at the same time, administered internally, acts very promptly in quinsy, and other forms of inflammatory sore throat.

Where found—It is a native of Europe, and cultivated in gardens in this country, and found in all drug-stores.

ACETIC ACID (*Acidum Aceticum*).

Its vapor, inhaled into the nostrils, is valuable in headache. It will cure warts and corns when applied to them.

One pint, added to six of water, makes a valuable article of vinegar.

Description—It is a very sour liquid, clear and colorless; strong taste, and rather agreeable odor.

ALOES (*Aloe Perfoliata*).

Some of the principal diseases for which Aloes is employed are constipation, suppressed menstruation, dyspepsia, thread-worms, diseases of the liver and headache. Dose, in constipation, from one-half to two grains; for obstructed menstruation, five to ten grains twice a day. Dissolving the aloes in warm water, then using as an injection, will expel the thread-worm. Aloes should never be used in pregnancy, nor by any one afflicted with the piles.

Description, and where found—A resin, obtained from a foreign tree, but found in drug-stores.

AGRIMONY, Cocklebur, Stickwort (*Agrimonia*
Eupatoria).



Agrimony.

Part used—The entire plant.

The leaves are very useful in jaundice and scurvy. It is also recommended in fevers and asthma, taken in a strong decoction, sweetened with honey. A tea of the root and herb, has the reputation of curing almost any case of scrofula by its free and persevering use.

Description—This plant has a yellow blossom, growing on a long terminal spike, which is a continuation of the main stem; producing a small green burr which sticks to clothing that comes in contact with it. It grows from one to two feet high. The leaves are ragged, hairy and unequal, and the lower ones are the largest. The root has a mild taste, and is astringent and tonic.

This plant is found in most parts of the United States, yet it is not what is generally known as the troublesome "cocklebur."

ALUM (*Alumen*).

A strong solution of alum is valuable as a gargle in sore throat, and falling of the palate. The solution in powder is useful for checking bleeding of the nose, and given with equal parts of molasses or honey in teaspoonful doses, repeated every ten or fifteen minutes, is an admirable remedy for croup. Dried or burnt alum sprinkled on proud flesh will remove it. It is prepared by being placed on a hot shovel, or any metallic substance, and allowed to remain until the ebullition or boiling ceases, after which it is pulverized. A solution of alum is an excellent remedy in almost all cases of itching piles, applied twice a day. The solution is used also as a wash for preventing venereal diseases. As a remedy for the cure of falling of the womb, it has *few* equals. It is also very excellent in leucorrhea. In these diseases, it is to be employed as an injection. It is very astringent, and often used with success in diarrhea and dysentery, and also in night-sweats, given in doses of twelve or thirteen grains, or fourth of a teaspoonful, repeated every four hours.

ALUM-ROOT (*Heuchera Americana*).

Part used—The root.

The decoction is useful in ulceration of the mouth and throat, and as an injection in bleeding piles and leucorrhea; it has also been given internally in dia-

betes. The powdered root is a good application to foul ulcers and wounds. The extract is used in diarrhea and dysentery. Dose of the decoction, a wineglassful three times a day.

Description—It has a rose-colored or purplish-white flower. The root has a powerfully astringent taste, is knotty, and of a yellowish color.

ALLSPICE (*Myrtus Pimenta*).

Allspice is an excellent and safe remedy for bowel complaints. It is very frequently combined with other preparations for this purpose. To two tablespoonfuls of it, add one of cinnamon bark, two teaspoonfuls of cloves and one pint of water, boil half an hour, and while hot, add three tablespoonfuls of sugar. It is to be given cold, in doses of from half, to a tablespoonful, according to age, every three or four hours. This remedy will seldom be found to be surpassed in the treatment of these diseases. For hoarseness, boil two tablespoonfuls of cloves for twenty or thirty minutes, in half a pint of water, use as a gargle frequently, and at the same time take a small portion of it internally. It is usually prompt and effectual.

AMBER (*Succinum*).

This is regarded as a fossil resin, the product of an extinct plant. There is an oil prepared from it, called the *oil of amber*, which has been successfully used in hooping-cough, and in painful menstruation; it is also

employed in kidney disease, and in hysterics. Dose, from five to ten drops, repeated every hour or oftener, when necessary. Amber is common to both this country and Europe. It is a translucent, resin-like substance, brittle and of a yellowish color, and may be had at any drug-store.

AMERICAN SARSAPARILLA (*Aralia*
Nudicaulis).

Part used—The root.

This is a substitute for the foreign sarsaparilla. It is a very valuable remedy in all constitutional diseases, as a blood purifier. In syphilis, scrofula, skin diseases, etc., it is used with success. Dose, of the decoction, or syrup, from two to four tablespoonfuls, three times a day.

Description—Height, one to two feet; roots, large, long and soft, with sweetish, aromatic taste; bearing several bunches of yellowish-green flowers, followed by clusters of small berries resembling, to some extent, the common elder-berry.

Where found—In rich soils and rocky lands.

**AMERICAN HELEBORE, Swamp Helebores,
Indian Poke (*Veratrum Viride*).**



American Helebores.

Part used—The root.

The tincture is a good remedy in erysipelas, and inflammatory rheumatism, neuralgia and gout. It is also used in active pneumonia, bronchitis, pleurisy, and enlargement of the heart. But it should never be given in the latter stages of pneumonia. It has often cured convulsions in child-bed fever, and in such cases where the pulse is full and hard, it may be

relied on as a positive remedy. Dose, one to two drops, every two or three hours. Large doses continued may produce dangerous consequences. In administering this medicine when the pulse begins to recede, the dose should be reduced, and the intervals between the doses prolonged. Thus given, it is a safe and prompt remedy in inflammatory diseases. Doses, for children, one-fourth to one-half a drop, according to age.

Description and where found—This is a perennial plant, growing in moist places, and having numerous yellowish-green flowers, from May to July. The roots should be collected in autumn. The tincture of the fresh root is the best preparation.

AMERICAN IVY, False Grape, Virginia**Creeper** (*Ampilopsis Quinquefolia*).

Parts used—Bark, leaves and twigs.

This plant is esteemed a sovereign remedy for the dropsy. It has been used with good success in scrofula, diseases of the skin and bronchitis. Dose of the fluid extract, from fifteen to thirty drops three times a day; of the saturated tincture, from thirty to sixty drops; of the decoction, from one-half to a wineglassful.

Description—A creeping vine, with rooting, climbing stems and pointed leaves; greenish or white flowers growing in clusters; berries, dark-blue, acid and smaller than the common grape.

Where found—This vine is found running along fences and climbing trees, ascending to the height of fifty feet or more.

AMERICAN IPECAC, Wild Ipecac, Spurge.*(Euphorbia Corollata)*.

Part used—The root.

This is said to be a speedy and certain remedy for bilious colic, taken every half-hour, in doses of ten to twelve grains, until relief is obtained. It has been effectively used in dropsy. Dose, five to ten grains, three

times a day. It is employed also in suppressed menses, dyspepsia and fevers.

Euphorbin is the active principle of this plant, and is said to be a good remedy in arresting night-sweats, and valuable in lung-diseases, for which it is to be given in very small doses—about one-twentieth of a grain, four times daily. It is regarded as a prompt remedy in diabetes, when combined with helonine. Dose, as an emetic, five to eight grains; as a cathartic, three to five grains. As an alterative and diaphoretic in diabetes, from one-fourth to one-half a grain. The American Ipecac is common to the United States, and found in all drug-stores.

AMERICAN SENNA (*Cassia Marilandica*).

Part used—The leaves.

These are a safe and certain cathartic and may be substituted for the foreign senna, in doses one-third larger than this.

Description—This is a perennial plant, common to the United States, and growing in low, moist situations.

ANGELICA (*Angelica Archangelica*).

Parts used—The roots, stems and seeds.

The tea of the root is very useful for allaying nervous headache and relieving the pain caused by flatulence, or wind in the stomach. It is also recommended for pains in the breast and feeble digestion. The infusion may be drunk freely.

Where found—Cultivated in gardens.

ANISE-SEED (*Pimpinella Anisum*).

These are very efficacious in dyspepsia, and to expel wind from the stomach and relieve colicky pains and griping. A tea may be given, in doses of from one teaspoonful to a tablespoonful, and repeated often.

For dyspepsia, the oil, dropped on sugar, is preferable to the tea. Dose, two or three drops. Of the essence, five to ten drops.

Where found—Cultivated in gardens and found in all drug-stores.

APPLE-TREE BARK (*Pyrus Malus*).

The fluid, as well as the solid extract of this bark, possesses power to interrupt, or cut short the paroxysms of ague or other periodic forms of fever. It is not equal to the other barks employed for this purpose, yet it may often be used when they can not be obtained. Dose, of the tincture, from five to thirty drops, every two hours during the chill; of the fluid extract, about the same, or perhaps a little less.

ARNICA (*Arnica Montana*).

Arnica.

Tincture of arnica is commonly employed for external purposes, as for wounds, bruises, sprains, etc. Add one teaspoonful to a tumbler of cold water, mix well, and occasionally apply this to the wound. It will be found one of the best remedies for this purpose. For internal bruises, give the patient two or three drops of the tincture, every three

hours, and continue as long as the symptoms seem to require it. It is often applied with success to rheumatism of the joints and pains of the feet, caused by walking.

Arnica is a poison, and should, therefore, never be used in large doses.

It is a foreign plant, but can be obtained at all drug-stores.

ARBOR VITÆ (*Thuja Occidentalis*).

Fluid extract of the leaves. Dose, one-fourth to one fluid drachm. This drug seems to have given excellent results as a substitute for calisaya in the treatment of malarial diseases. Dr. Schoepf recommends it for intermittent and remittent fevers, coughs, scurvy and rheumatism. Dr. Benedict found the saturated tincture in doses of a teaspoonful ($\frac{1}{2}$ fluid drachm of the fluid extract) useful as an emmenagogue. Bandages soaked in the fluid extract (diluted) and applied to venereal excrescences, will often remove them if frequently renewed. The same treatment will be of value for cancerous affections.

ARLANTHE ELONGATA (*Matica*).

Part used—The leaves.

It is employed in catarrh, gonorrhea, excessive menstruation, catarrh of the bladder, leucorrhea, bleeding from the lungs and spitting of blood. For catarrh it is very superior, and regarded by some practitioners as almost an infallible remedy. The infusion is to be snuffed up the nostrils, and at the same time the tincture should be taken internally. For gonorrhea, excessive menstruation and catarrh of the bladder, the infusion is employed by injection, and usually with good success. It is a very prompt remedy in arresting

hemorrhage of the lungs, spitting of blood, and likewise for external wounds, in which case the under side of the leaf is to be applied to the wound, or the finely powdered leaves applied. Dose, of the tincture, one to two spoonfuls three or four times a day; of the infusion, one tablespoonful of the fluid extract, twenty to thirty drops, three times a day.

Where found—This is a foreign plant, but may be procured at drug-stores.

ASAFŒTIDA-PLANT (*Ferula Asafatida*).

Part used—The gum.

When spasms and constipation have weakened the powers of life, and the functions are performed in a languid manner, asafœtida generally affords effectual relief, as it promotes digestion, enlivens the spirits and increases the natural motions of the intestines. Its action on the bowels is quick and penetrating, affording great and speedy relief in hysterics and convulsions, and especially when the bowels are constipated. It has been used in whooping-cough and to expel worms. It may be employed by enema. Dose, one pill the size of a pea; of the tincture, ten to fifteen drops, and repeated as the circumstances of the case may appear to require. The tincture is found prepared in drug-stores, or can be made by dissolving an ounce of asafœtida in a gill of alcohol, and then filtering.

The tincture, employed by enema, is reputed an effective means of expelling the thread or pin-worm.

Description and where found—This plant grows in the mountains of Persia. The resinous gum exudes from the roots after being cut. It is then dried in the sun.

BAEL-FRUIT (*Belæ Fructus*).

It is a remedy that is very useful in diarrhea and dysentery with debility of the mucous membrane, and other diseases of the bowels, which it relieves without producing constipation. It is largely used in India, its native country, in acute and chronic cases of these diseases. Dose, of the fluid extract, one-half to one teaspoonful.

BALM (*Melissa Officinalis*).

Part used—The tops.

A tea of this plant is useful in painful and obstructed menstruation, and is valuable in fevers, and as a cooling drink.

The tea may be drunk freely, and especially in febrile diseases, as it causes perspiration and promotes the action of other diaphoretic medicines.

Where found—Cultivated in gardens, and found in drug-stores.

BALM OF GILEAD (*Populus Candicans*).

Part used—The buds and bark.

It is used, mainly, in affections of the lungs, coughs, and kidney-complaint, and also employed in scurvy, and is said to be a cure for piles. Dose of the tincture, from

two to four teaspoonfuls, three times a day. The tincture of the bark is said to be useful in rheumatism and gout.

Description and where found—A tree growing in some parts of this country, from fifteen to thirty feet high, bearing buds that contain a balsamic gum, of a bitterish taste but an agreeable odor.

**BALMONY, Snake-Head, Turtle-Head, Bitter
Herb (*Chelone Glabra*).**



Balmony.

Part used—The tops.

It is a valuable vermifuge, and is regarded by some physicians as having no superior in expelling worms. One ounce of the dry herb should be made into an infusion, and drunk during the day, and may be followed by a suitable purge. A tea of the leaves is given for jaundice, piles, boils and sores. It is a bitter tonic, and one among the best medicines there are to promote the appetite.

This forms the foundation of "*Kenedy's Medical Discovery*." Latterly, this plant is found to be a very successful remedy in the cure of extreme cases of dyspepsia, and it is thought to be better when employed with sugar of milk. Dose of the saturated tincture, ten to thirty drops two or three times a day.

Description—It grows from two to four feet high, with a square stem; the flowers are generally white, though of different colors in different varieties, as white spotted with red, and purplish; and of a singular shape, resembling the head of a snake with its mouth open. The leaves are of a dark-green color, and intensely bitter.

Where Found—It grows in low, wet situations, and on the banks of streams.

BALSAM OF PERU.

When this is made into an ointment with equal parts of tallow, it forms an excellent application for sore breasts, ring-worms and indolent ulcers.

It is used in coughs and chronic diseases of the lungs, and is also valuable in leucorrhea, gonorrhea and gleet.

It acts specially on the mucous membranes of the system, and, as such, it is successfully used in chronic mucous inflammation of the stomach and bowels. Dose, fifteen to thirty drops, three times a day.

Description and where found—This is a resinous juice obtained from a tree growing in South America. Found in all drug-stores.

BALSAM OF FIR (*Pernis Balsamea*).

This balsam is in high repute in some sections of the country for diseases of the lungs and for coughs. It is very valuable for strengthening the nervous system and especially good for cleansing and healing internal ulcers.

It will cure the whites and venereal complaints when taken in the first stages, and it will be found valuable, applied externally, for healing wounds and ulcers. Dose, internally, from twenty to thirty drops, two or three times a day. For coughs, five to ten drops three times a day, given on a little sugar.

Where found—In the drug-stores, being the juicy or resinous exudation of the fir-tree, which grows very plentifully in most parts of the Northern States and on the Pacific Coast.

BALSAM COPAIBA (*Copaifera*).

This balsam is often a most effectual remedy in leucorrhea or white sand a popular remedy in gonorrhea, being usually combined with such articles as sweet spirits of nitre, oil of almonds and spirits of turpentine in about equal parts, and taken in teaspoonful doses, three or four times a day. It is also employed in chronic dysentery, irritation of the bladder and bronchitis. Dose, twenty to forty drops, three times a day. It is an admirable remedy for croup, especially membranous croup. As an external application, it has been found very useful in fistulous ulcers, also in indolent ulcers, chilblains, etc. It has often been used internally with beneficial results in chronic catarrh and painful piles.

Where found—It is a resinous juice, obtained from a tree growing in South America and the West India Islands.

BALSAM OF TOLU (*Myrospermum Toluiferum*).

Incisions are made on this tree, from which the juice exudes, somewhat similar to the sap of the sugar-tree. Continued exposure of it to the atmosphere renders it hard and brittle, like rosin. Its medical properties are somewhat similar to that of balsam of Peru.

It is employed in coughs, chronic catarrh, bronchitis, asthma, gleet and diseases of the lungs of long standing. It is generally combined with other medicines. The dose is from ten to twenty-five grains.

Where found—Imported from South America, and found in drug-stores in this country.

BARBERRY (*Berberis Vulgaris*).

Parts used—Bark and berries.

A tea of the bark mixed with hard cider, taken in doses of three or four tablespoonfuls three times a day, is an admirable remedy for the jaundice. The juice of the berries taken freely will generally cure the bloody flux and the diarrhea, that often accompany the typhus fever. Attacks of putrid fever, attended with the diarrhea have been relieved and entirely cured by simply eating the berries and drinking the juice. The juice is also an admirable remedy for check-



Barberry.

ing the heat, quenching the thirst, keeping up the strength and preventing putrefaction in malignant fevers.

Description and where found—The berries have a pleasant, acid taste and ripen in June. The bark of the shrub is of a yellow color, and bitter. It grows in various parts of the United States and is found in drug-stores.

BAYBERRY (*Myrica Cerifera*).



Bayberry

For the typhoid dysentery, that is so prevalent at some seasons of the year, this is generally a successful remedy. Give a drachm of the powder, every three or four hours. Used as a snuff, it will cure polypus of the nose. It is successful in the treatment of jaun-

dice and scrofula. In some sections of the country it has been used as a remedy in scarlet fever, with great success. And as a gargle in putrid sore throat, it is seldom surpassed. For dysentery and diarrhea, it is administered in the form of a decoction, in teaspoonful-doses, three times a day. It will seldom be necessary

to resort to any other medicine. The decoction applied externally, for ulcers and sores, is very efficacious.

Description and where found—Bayberry is one of the most valuable medical plants of our country. It is found growing in almost every state. Height, from four to twelve feet; flowers appear in May, followed by berries, green at first, but in the fall they assume a dull-white color. The leaves are narrow, and tapering at the base; the upper part of the leaf is a glistening green. The stems are covered with a grayish bark, thickly branched at the top.

BEAR'S FOOT (*Polymnia Uvedalia*).

Parts used—The root and top.

This is one of the most important remedies in use, for the treatment of white swelling.

It had been used with uniform success for years, during which time it was kept a secret. It has effected cures, in many instances, after all other means had been tried in vain. The mode of preparing it is to boil the root in lard, and make it into an ointment, with which the swelled parts are to be anointed two or three times a day, and at each time cover them with flannel and heat the parts with an iron, in order to facilitate the absorption of the ointment.

Dr. J. W. Pruitt has called attention to it as a remedy for enlarged spleen, and as an alterative in scrofula. It is a good remedy in old, chronic cases of rheumatism, given internally and used as an ointment; it is also a good alterative. Use a saturated tincture, made by

adding eight ounces to one pint of alcohol (96°). Dose, from ten to thirty drops, every four hours.

Description—Roots very abundant, large and long, enlarging as they proceed from the common head so as to resemble, in some degree, a small sweet-potato, blackish outside and whitish within. Stems frequently several together, growing five or six feet high, bearing leaves the size of a man's hand, and very much resembling in shape the foot of a bear, whence its common name.

BEBEERINE, from the Bebuructra (*Beburina Sulphas*).

It is in glittering scales of a brownish-yellow color. It possesses a direct effect upon the womb, and is invaluable for congestion of that organ giving rise to profuse hemorrhage. It is said to act more promptly in checking excessive flow of the menses than any article in the materia medica. It not only controls the hemorrhage, but if taken in small doses in the interval, it prevents its recurrence. For this purpose two or three grains, in pills, may be given every two or three hours. As an antiperiodic it may be given in five-grain doses every two hours, until twenty to thirty grains have been taken.

BEET.

For most forms of gravel the common garden-beet is an infallible remedy. It is prepared by boiling a quantity of the beets, as if preparing them for the table, and until the juice is thoroughly obtained. Then remove and boil this liquid down to almost a syrup, and drink freely of it four or five times a day.

Beatin—This is the active medical principle of the beet. To be had at drug-stores. It is said that it will bring on menstruation, even in the most obstinate cases of suppression. It will act very mildly, but quite efficiently, and is one of those agents so positive that it may be relied on in all cases of these obstructions.

The dose is from three to five grains, three or four times a day. The fluid extract of the beet is a convenient article, and so is the essential tincture, given in one to three-teaspoonful doses, three or four times a day. These preparations are regarded by some physicians as preferable to the beatin.

BEECH-DROPS, Cancer-Root (*Epiphagus Virginianus*).

Parts used—Tops, stems and roots.

This plant has been successfully used in that terrible scourge of mankind, the cancer. Hence the name. An infusion of the tops and roots is to be used both inter-

nally and externally. Dose, a wineglassful three times a day.

It is used with success when applied to obstinate ulcers, and will be found valuable in sore mouth, erysipelas, diarrhea, and especially in asthma. The decoction or infusion may be taken very freely every one to three hours. Dose of the powder, twelve to fifteen grains.

Description—This has more the appearance of a fungus-growth than a living plant. It appears in stems, eight to sixteen inches high, divided into numerous branches, having no leaves, but a few scales. The whole plant is of a yellowish, or light-brown color. The root has a bunch of short, crooked fibers at the bottom.

Where found—Usually under beech-trees.

BELLADONNA, Deadly Night Shade (*Atropa Belladonna*).



Belladonna.

Part used—The leaves.

It is exceedingly valuable in nervous diseases, as well as many others. It is considered a preventive of scarlet fever by some practitioners, and is invaluable for this purpose. Give, of the extract, from one-eighth to one-half a grain, once or twice a day; of the powered leaves, one grain. Belladonna will be found a very useful remedy in neuralgia, spasms, convulsions, St. Vitus's dance, hooping-cough,

rheumatism and all nervous affections. Dose of the extract, from one-eighth to one-half a grain; of the powdered leaves, one to two grains, once or twice a day. The symptoms should be carefully observed, and the medicine administered with caution, as it is a narcotic poison.

Description—A native of Europe. It grows to the height of two to three feet, each bunch of roots sending up four or five stalks, which are of a purplish color, and covered with a sort of fur; leaves oval-shaped, soft, growing in pairs, and of a dull-green color.

Where found—In drug-stores.

BENNE LEAVES (*Sesamum Indicum*).

Part used—The leaves.

They are exceedingly good in bowel complaints, diarrhea and flux. The leaves form a nutritious, healing mucilage, on being soaked in cold water, half a dozen leaves to one quart of water, then used as a drink. Whenever there is any predisposition or tendency to bowel-complaints, either in children or in adults, it will, at once, prevent its further development. This mucilage is to be drunk in all forms of this disease. If its virtues were more generally known, it would be employed to a much greater extent than it is. It is easily administered to children, for it is not unpleasant to the taste.

Where found—Cultivated in gardens.

BETH-ROOT, Read-Leaf, Ground-Ivy, Cough-Root (*Trillium Latifolium*).



Beth-Root

Part used—The plant and root.

An infusion of this and equal parts of blood-root is said by some physicians to be a certain cure for inflamed carbuncles and ulcers, applying at the same time a poultice of the former.

The root is employed in various hemorrhages, such as bleeding from the kidneys, bladder and uterus, also spitting of blood, etc. It is good in coughs, asthma, diarrhea and night-sweats.

The infusion is made by adding a pint of boiling water to a tablespoonful of the powder; of this use freely. Dose of the powdered root, one teaspoonful, repeated often.

Description—Height, six to twelve inches, three leaves at the top and one terminal flower, either white, red, purple or mixed color; the root is thick, wrinkled, somewhat like that of the ginseng.

Where found—Growing in rich soils and bottom-lands.

BERBERIS AQUIFOLIUM (*Oregon Grape*).

This plant possesses extraordinary powers as a combined alterative and tonic. It is said to be an almost unfailing remedy in syphilitic and scrofulous diseases, and salt-rheum. Dose of the fluid extract, from fifteen to thirty drops, three times a day. A decoction of the root may be drunk freely.

Dr. R. Leonard, of Chicago, uses the following language in reference to this shrub, or plant, in the treatment of syphilis. During the past year, hav-



Berberis Aquifolium.

ing considerable venereal practice, I have used *berberis aquifolium* for syphilis, almost to the exclusion of other internal remedies, with very gratifying results. Occasionally I have combined 5 gr. doses of iodide of potassium, and in nearly 100 cases have had the pleasure of seeing the disease disappear more promptly in every case than it ever did when I relied upon the old forms of treatment.

Prof. Bundy, of the California Medical College, thus speaks of this plant: "It was first brought to my notice by a gentleman who had been suffering for years from syphilis, and after using the root of this shrub for eleven months, every vestige of the disease had disap-

appeared." And he further says, "it will break the chills, as certain as quinine."

Its power as an alterative is certainly marvelous, and not only as an alterative but a tonic also. The root is the part used, and it is extremely hard and tough, and of a bright golden yellow in color, an intense but pleasant bitter. As a tonic, and a *general* tonic, I know of nothing that can excel it.

It is a shrub from two to six feet high, bearing acid berries, containing from one to three seeds. Parke, Davis & Co's preparations of this plant are regarded by physicians as superior to those found elsewhere.

BITTER-ROOT, Milk-Weed (*Aposynum Androsæmifolium*).



Bitter-Root.

Part used—Bark of the root.

This is a celebrated remedy among the Indians, for the cure of venereal diseases, and is regarded as almost infallible. And it has been very effective in dyspepsia, and chronic affections of the liver. It usually acts promptly in constipation. Dose of the powder, twenty to thirty grains. If it causes too great action of the

bowels, the dose should be lessened. A wash made by steeping the root in water is good for scald-head and ulcers. When used as an alterative, to act on the liver, or for dyspepsia, give ten grains, twice a day: of the extract, five to six grains. This remedy has latterly employed by some practitioners for nervous headache, for which it is said to be one of the most prompt and effectual remedies in use. It is also highly praised for rheumatic gout of the joints. Dose of the fluid extract, ten to twenty drops, repeated every three or four hours.

Description—Height, from three to four feet: stalk, of a reddish color; flowers, white and in loose clusters. The root is usually larger than the stalk, running deep into the ground. It has a thick bark, which is the part used as a medicine, and is of a disagreeable, bitter taste.

BITTER-SWEET, Woody Night-Shade (*Solanum Dulcamara*).

Parts used — Root and twigs.

It is employed in jaundice, rheumatism, syphilitic affections, scaly cutaneous diseases, and in obstructed menstruation. A very valuable syrup for scrofula is prepared from the twigs of bitter-sweet, stillingia and yellow-dock root, each equal quantities. Made into an ointment with lard, it forms an excellent remedy to scatter



Bitter-Sweet.

painful tumors, and has been very efficacious when applied to ulcers.

Description—Stem shrubby, zigzag, climbing along trees, slender, vine-like, seldom exceeding seven or eight feet in length, with leaves of a dull-green color. When fresh these stems have an unpleasant odor, which they lose by drying. Their taste is at first bitter, afterwards slightly acrid and sweet: hence the name. It bears clusters of elegant purple blossoms.

Where Found—It grows in hedges and thickets, especially in moist situations. There is another vine called *Bitter-sweet*, a description of which will be found under “Staff-Vine.”

BLACK LOCUST (*Robina Pseudo-Acacia*).

Parts used—Bark of the root and the leaves.

The bark is cathartic and the leaves emetic. Steep a half-ounce of the leaves in a half-pint of water. If this be given in doses of half a teaspoonful every fifteen minutes, it will act as an efficient emetic. To one ounce of the root add a quart of water; boil down to nearly one pint: a tablespoonful of this given night and morning acts as a cathartic, and is frequently used as a substitute for butternut.

BLACKSNAKE ROOT—Sanicle (*Sanicula Marylandica*).

Part used—The root.

The Indians regard this as a sovereign remedy for rattlesnake bites. They take a handful of the roots and boil them in about a pint of water, and drink it in divided doses in the course of a half-hour. At the same time they prepare a decoction of the leaves, and apply to the bitten parts. It is also valuable for the cure of hives, sore throat and croup. It has been very successfully used in St. Vitus's dance and intermittent fevers. Dose of the decoction, from half to a pint should be taken during the day; of the powdered root, from half to a teaspoonful three times a day, according to age. Blacksnake root is an excellent nerve; that is, it quiets and strengthens the nerves.

Description and where found—It rises from one to three feet high, and is found in thick woodlands. The root is small, fibrous and black. The leaves grow at the top of the long, naked stem, and five in a whole general stem rise from the same root. The flower-stem rises higher than the leaf-stem, and bears a few white flowers.

BLACKBERRY (*Rubus Villosus*).

Parts used—The berries, leaves and roots.

This plant is exceedingly valuable in chronic diarrhea, dysentery, cholera-infantum and summer-complaints of children, and often cures when all other means fail. The

decoction of the root may be used freely, four or five times a day. The ripe fruit makes an excellent syrup. In preparing it add a little cinnamon, and after simmering for a short time, add white or loaf-sugar; while hot, strain; and, when cool, add a few tablespoonfuls of brandy. Dose, from one teaspoonful to two tablespoonfuls, according to age, four or five times a day. Blackberry-jelly and jam are both valuable for all bowel-complaints. The decoction is exceedingly valuable as an enema, in falling of the womb, leucorrhea, gleet and hemorrhage of the womb. Water flavored with the syrup is a very salutary drink for patients during fevers, as well as in the convalescent stage. The red-raspberry leaves, and those of the dewberry, possess similar properties and are often preferred to the blackberry.

BLACK HAW (*Viburnum Prunifolium*).

Part used—Bark of the root.

A decoction of this plant will generally cure chills and fever. It is almost an infallible remedy in cases of threatened abortion, and is, therefore, of especial value for women who are subject to miscarriage, acting, as it does, as a specific tonic on the womb. Tablespoonful doses of the decoction should be used three times a day. Its use for this purpose should be commenced two or three weeks before the expected recurrence of the misfortune, and continued for about two weeks beyond the period. It usually gives speedy relief in palpitation of the heart, and is a valuable agent in diarrhea and dysentery, and as a gargle in ulcers of the mouth and throat. When taken internally,

it will allay the severity of after-pains. Dose of the decoction, a tablespoonful three or four times a day ; of the tincture, a teaspoonful.

Description—It is a small tree, ten to twenty feet high, found in most of the States, bearing the fruit known as black haws, which are of a jet-black color, and hanging in bunches. They are a pleasant and agreeable fruit.

BLACK-ROOT, Culver's Physic, Bowman Root
(*Leptandra Virginica*).'

Part used—The root.

It is very highly celebrated as an efficient purgative medicine. It operates with mildness and certainty, without producing that depression of the powers of the system so common to other purgative medicines. In fevers, it removes the morbid matter from the bowels without weakening their tone, or leaving behind that poisonous sting so often remaining after the use of calomel. It is used very effectually in the cure of pleurisy and also in some forms of dyspepsia. As a cathartic in dysentery, it is one of the best medicines known, when given in moderate doses. It would be well to combine it with a little rhubarb in such cases. It should be given in decoction, in doses of three or four tablespoonfuls, and repeated every three hours until it operates. Dose of the powder, as a cathartic, twenty to forty grains.

Leptandrin is the extract made from this root, and



Black-Root.

may be used in all cases in its stead, and is generally preferable to it. It is regarded as a complete substitute for blue-mass in cases of liver complaints, without producing any of its injurious effects. It is almost a sure cure for bloody flux and dysentery. Dose, for a grown person, about one grain, and repeat in eight to twelve hours. Generally two or three doses will effect a cure for children, from one-fourth to three-fourths of a grain. Dose, as an alterative, for liver-complaint, one grain, once a day; as a cathartic, four to five grains.

Description and where found—In rich soils, rising three to four feet high, smooth stalk, with four to seven leaves coming out opposite each other at different points on the stalk; when in bloom it has a number of long tassels on its top, resembling corn-tassels. It is found at the drug-stores. The old, dried, dead black-root should not be employed, for it is generally worthless, and when leptandrin is made from this article it is of no value.

Simons' Liver-Medicine—In dyspepsia and torpid and diseased liver, take one ounce of black-root, ten ounces of golden seal and two of senna, to a quart of water, and boil to a pint. Of this, from one to two tablespoonfuls may be given three or four times a day, and the quantity increased if it fails to operate gently, or diminished if it operate too much. The action on the bowels should not be more than perceptible. In this you have a remedy very far superior to Simons' liver-medicine, so popular with the people.

BLACK WILLOW, Pussy-Willow (*Salix Niger*).

Parts used—Bark of the roots and stems, the leaves and twigs. A tea made of a handful of the bark of the roots, and drunk freely, will cure almost any case of bloody-flux or dysentery. It is very effectual for chills and fever, and often used in dyspepsia and general debility. The bark, bruised or in powder, makes a very superior remedy in all cases of gangrene or mortification, to be applied in the form of a poultice, at the same time taking a small portion of the tea internally. This poultice is also very efficient for foul and indolent ulcers. When it becomes necessary to suppress sexual desire, the buds and twigs made into tea or decoction and drunk freely, will accomplish this purpose. The decoction of the willow has cured the most inveterate cases of erysipelas; and, as an application in this disease it is seldom surpassed. Dose of the decoction, from two to three tablespoonfuls three times a day; of the powdered bark, one teaspoonful.

Salicin in Rheumatism—Salicin is the active principle of the willow. In reference to its use in rheumatism, Dr. J. H. Haley, of San Francisco, says that it is one of the most valuable remedies we have for this disease, when given in ten-grain doses, three times a day. It is often employed as a substitute for quinine, and can be had at all drug-stores.

Description—Height, from five to twenty feet; has a dark, rough, outside bark, while the branches are of a light-yellow color.

Where Found—Along the banks of water courses,

small streams and wet lands, in nearly all parts of the United States. Some authors make a distinction between the black and the pussy willow in this: that the former is of a darker color, and has longer branches than the latter. But as regards the practicability of this distinction, it is immaterial, as both varieties contain the same medical properties.

Willow (*Salix alba*)—This species contains the same medicinal properties as the black willow given above, which *see*.

BLACK WALNUT (*Juglans Nigra*).

Parts used—The bark, leaves and green nuts.

A strong tincture of the leaves and nuts is highly extolled as a remedy in the treatment of bilious and cramp colic. Dose, one to two teaspoonfuls every twenty or thirty minutes until relieved.

An infusion of the leaves is a sovereign remedy in scrofula and many cases have been cured with it. Two handfuls of the leaves should be used to one quart of water, in preparing the infusion, and a gill of this, after being sweetened with sugar, should be drunk during each day. It may be necessary to continue using this for several months.

The dry leaves may be used when the green cannot be had. A tincture of the nuts or leaves is said to be almost a certain cure for the tetter, applied externally, and at the same time a portion should be taken internally. It is said that the rind of the walnut, applied to the parts, will cure the tetter.

Where Found—In almost all parts of the United States.

BLACK COHOSH, Squaw-Root, Blacksnake-Root, Rattle-Weed (*Cimicifuga Racemosa*).

Part used—The root.

This plant is regarded by some physicians as one of the best agents in use for whooping-cough. Two tablespoonfuls of the tincture, together with the same amount of the tincture of blood-root and lobelia, and syrup of squills, constitute one among the best cough-medicines in use. Dose, one teaspoonful every three or four hours.

The tincture has been successfully employed in St. Vitus's dance, and in asthma and delirium tremens. It is likewise employed in neuralgia, consumption, acute rheumatism, scrofula and leucorrhea. It is especially valuable in female complaints. Dose of the tincture, twenty to sixty drops, three times a day; of the fluid extract, from a half to two teaspoonfuls.



Black Cohosh.

Equal parts of the extract of high-cranberry bark and the fluid extract of black cohosh will promptly cure persons afflicted with cramps. It is used by the Indians as an antidote for the bite of snakes, for which purpose it is bruised and applied to the wound; and at the same time a little of the juice is to be taken internally. It is very highly extolled for the treatment of small-pox, and also for facilitating child-birth.

Description—The root is black, with a large head,

and many long fibres; stem from three to six feet high, terminating in a spike of white blossoms, which appear in June and July.

Where found—In rich, open woods, particularly on rich hill-sides and adjoining fields.

In nervous rheumatism there is, perhaps, no remedy more prompt in its action than black cohosh. Its eliminating tendencies make it an admirable remedy for scarlet fever and measles. The tincture should be made from the fresh root, or that which has recently been dried, two ounces to half-pint of alcohol (96°). The dose is from five to fifteen drops, four times a day.

Macrotin—This is the concentrated active principle, and made from the root of this article. For the measles, scarlet fever and small-pox, it is one of the best preparations known to keep the eruption to the surface, and also to determine or cause it to come to the surface of the skin. Dose, from one-half to one grain, two or three times a day.

BLESSED THISTLE, Holy Thistle (*Centaurea Benedicta*).

Part used—The leaves.

It is valuable to strengthen the digestive organs in dyspepsia and intermittent fevers. Dose, of the infusion, half a teacupful, three times a day. It should be taken cold.

Dr. Leidbeck reports cases of enlargement of the liver, cured with this plant, and cases also of gall-stones, with jaundice. Dose, of the saturated tincture, from ten to fifteen drops, three times a day.

Where Found—In the drug-stores and growing in gardens.

BLACK BIRCH, Sweet Birch, Spice Birch
(*Belula Senta*).

Part used—The bark.

This is an excellent tonic, and, made into a syrup or tea, is one of the most valuable remedies there is, in restoring the strength and tone of the bowels, after dysentery. It should be drunk freely, four or five times a day. It will also remove female obstructions.

BLACK ALDER, WINTER-BERRY (*Prinos*
Verticillatus).

Parts used—Bark of the root and stalk.

The decoction has been successfully used in jaundice, liver-complaint and intermittent fever, taken in wineglassful-doses, three times a day. A decoction of black alder, made into a poultice with powdered elm-bark, is among the best preparations in use for foul ulcers and sores. Being a very superior remedy for purifying the blood and cleansing the system, it is often combined with other articles, as sarsaparilla, burdock or sassafras, to form an alterative syrup. An infusion of the bark of the root of black alder and golden seal is a successful remedy in some forms of dyspepsia. Of this infusion, take four ounces of the former and one of the latter, and, when mixed, take a wineglassful cold, before each meal, and one on going to bed at night.

Description—It is a small shrub, of a crooked shape,

growing usually five or six feet high, with a bluish-gray-colored bark. It has small white flowers, during the month of July, followed with small red berries, in the fall and winter, about the size of a pea.

Where Found—By the sides of marshy streams, ponds, in swamps and marshy woods.

BLOOD-ROOT, Red Puccoon, (*Sanguinaria Canadensis*).



Blood-Root.

Part used—The root.

The powdered root is a sovereign remedy for the croup. An infusion of the fresh root is used with great success in curing tetter, warts and ringworm. The powder will remove proud flesh. When used as a snuff, it has removed polypus of the nose. It is highly valuable in coughs, colds and diseases of the lungs, and it is said to have cured consumption in its incipient stages.

It is very successfully used in diseases of the liver, when combined with equal parts of dandelion and mandrake. It is a highly valuable agent in scrofula, and in all cases of impure conditions of the blood. It is also useful in pneumonia or lung-fever and in jaundice. Dose of the tincture, from twenty drops to a teaspoonful, three times a day; of the powder, three to five grains; as an altera-

tive, one to two grains, twice a day. It is an excellent snuff, in case of headache and cold in the head. The tincture has been used with success in dyspepsia and dropsy of the chest. For tetter, warts, etc., a strong decoction should be used externally, while using the same internally. This herb is a stimulant, narcotic, and should never be taken in large doses.

Description and where found—It is a perennial plant, and appears early in the spring, growing in rich soil, in groves and on hillsides; rises but a few inches high, with several smooth stems coming up together, and a large smooth leaf, with one white flower to each stem. The root is bulbous, as thick as the little finger, and usually three or four inches long, red and full of juice of the same color.

BLUE FLAG (*Iris Versicolor*).

Part used—The root.

It has been employed with success in syphilis, scrofula, dropsy of the chest, chronic rheumatism, liver-complaint, diseases of the spleen, diseases of the kidneys and dyspepsia. It is a very good vermifuge, and is now regarded by some practitioners as one of the most positive remedies in secondary syphilis. It is a valuable remedy in all diseases of the blood. The tincture should be made of the fresh root bruised, four ounces to



Blue Flag.

should be made of the fresh root bruised, four ounces to

half a pint of alcohol (76°). Dose of the tincture, from fifteen to thirty drops ; of the extract, one to four grains, three times a day. The Blue Flag is a perennial plant, growing in wet lands and meadows and along the edges of creeks, having blue and whitish flowers.

BLUE COHOSH, (*Caulophyllum Thalictroides*).



Blue Cohosh.

Part used—The root.

This herb is especially valuable in epileptic fits and ulceration of the mouth and throat. In the latter it may be used alone or in combination with golden seal. It is regarded of especial service for rendering child-birth less painful and tedious, as it imparts tone and vigor to the womb. A tea of it should be drunk for

the last three or four weeks of pregnancy. A decoction is also used for colic, cramps, hysterics and rheumatism. The dose of the decoction is from half to two-thirds of a teacupful three times a day ; of the tincture half to a teaspoonful.

Description and Where Found—This is a perennial plant, growing throughout the United States, in low, moist, rich land, attaining a height of two or three feet. It is divided at the top in two or three branches,

each branch supporting three leaves, in the center of which come out the flowers, which are small and of a yellowish green color. It is diuretic, emmenagogue, anti-spasmodic and an efficient parturient. It is said that there is nothing a woman can take during the labors of child-birth that will facilitate it more than a decoction of this plant.

BLUE GUM, Health-Tree (*Eucalyptus Globulus*).

It is a new remedy, and has proved to be an important acquisition to the materia medica. Among the diseases in which it is employed are croup, diphtheria, asthma, piles, neuralgia, malarial diseases, catarrh, ulcers and sores. One physician reports that it has, in his hands, proved an effectual remedy in rheumatism. In the section of country where it grows it is a popular remedy with the inhabitants for chills and bilious fever. The mode of using it in asthma is to smoke the leaves after being dried.

For the piles, the parts are washed with a decoction of the leaves. Dose, of the tea of the leaves, from one-half to one teacupful three times a day. A favorite preparation is the fluid extract. Dose, from thirty drops to a teaspoonful, three times a day; of the solid extract, from three to ten grains; of the sugar-



Blue Gum.

coated pills, from one to four, three times a day. In reference to the eucalyptus, Dr. A. B. Woodward observes, "As a local application for ulcers and wounds, it has *no equal*, and for suspicious leucorrhœal discharges, it is one of the *best* articles; say one to two drachms in one-half pint of tepid water, injecting it slowly; and for toning up weakened and prolapsed uteri, there is no better remedy than eucalyptus; equal parts of fluid extract eucalyptus and spice-bush leaves and bark, used in the strength above mentioned."

This tree possesses, in a great measure, the power of destroying miasmatic influence in fever-stricken districts.

Medical journals give account of pestilential fevers being entirely abated in different parts of Europe by the cultivation of groves of these trees.

It is said that it possesses the singular property of absorbing an extraordinary amount of water from the soil, and when sown in marshy ground it will dry it up in a very short time.

BLUE LOBELIA (*Lobelia Cardinalis*).

Part used—The root.

This herb is most valuable as a remedy in the treatment of diarrhea and dysentery. The dose is from a half to a teaspoonful of the pulverized root, taken in water and repeated if necessary. This is said by some who have used it to be a certain remedy in the above complaints. Some western physicians report it as a decided success in the cure of dropsy. It is used by many as a remedy in venereal diseases, and more especially in syphilis, which it not unfrequently cures.

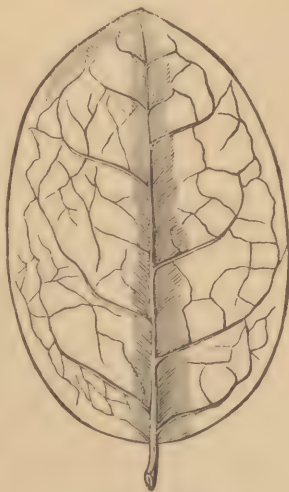
In these cases, the patient should drink from a pint to a quart a day, of a strong decoction. It has a high reputation for the cure of cancer of the breast. The patient should take four tablespoonfuls of the decoction, three times a day, and the cancer should be poulticed with the powdered root, wet with this decoction. It should be made warm, and used as the wash in changing and renewing the poultices. In all ulcers and wounds which have a tendency to terminate in gangrene and mortification, the application of this plant in decoction is one of our foremost remedies.

Description—The roots are white, fibrous, and ten inches long; stem erect, hairy towards the top; from one to three feet high, terminating in a spike of large, pale-blue blossoms; leaves large, finely indented on the edge, with unequal teeth.

Where found—Growing generally in wet or moist lands.

BOLDO-LEAVES (*Penmus Boldo*).

The new South American tonic. In France this remedy has been especially employed in cases where there had existed chronic torpor of the liver, and in cases of atony of various organs, where quinine could not be tolerated. Dr. Baremba recommends boldo in gonorrhea, rheumatism and dyspepsia. Dose, of the fluid extract, one to five drops, to be increased.



Boldo-Leaves.

BONESET, Thoroughwort, Feverwort, Indian Sage, Ague-Weed (*Eupatorium Perfoliatum*).



Boneset..

Parts used—Top and leaves.

For bilious colic, especially when it is attended with obstinate constipation, it is usually a speedy and reliable remedy. Give a teacupful of the cold infusion every half hour, until it acts on the bowels. It is said to be a valuable antidote for the bite of

snakes ; and a tea of it, taken freely, is excellent for relieving colds. It is very efficacious in fevers, remittent, intermittent and typhoid. Many assert that they can break up almost any case of fever with it. But, perhaps, it is more effective and valuable in fever and ague than in any other fever. It has been used with success in dyspepsia and general debility. Dose of the infusion, from one-fourth to half a teacupful, three times a day ; of the extract, two to four grains ; in which form it is more pleasant to take. If taken warm, in large doses, it will produce vomiting ; in small doses, perspiration ; taken cold, in large doses, it acts as a mild purgative, and in small doses, as a tonic.

Description and where found—Boneset grows

very plentifully in almost all parts of the United States, in low, moist and damp lands; growing from two to five feet high. The leaves are so formed as to give the stem the appearance of penetrating them through the center and standing out crosswise. When in bloom, it has a large, bushy top of white flowers.

BORAGE (*Borago Officinalis*).

Parts used—The leaves and flowers.

It is an excellent blood-purifier, and very much used in all putrid and malignant fevers. It is a diaphoretic or sweating agent, and is very useful in colds and rheumatism. It is a valuable gargle for canker-sore mouth, and inflamed tonsils and throat. The gargle is improved by the addition of a little sage-tea and honey. It is of the utmost importance in melancholy, and a very grateful as well as useful and cooling beverage in fevers. The flowers or leaves or both may be used, and drunk freely.

Description and where found—This plant commonly grows in old fields and waste lands, bearing very beautiful blue flowers, and is often cultivated in gardens as an ornament.

BORAX (*Sodæ Boras*).

Two parts of borax and one of cream of tartar, for some forms of gravel, is one of the best remedies known. They should be pulverized, and two ounces of the former, and one of the latter, be added to one and a half pints

of soft water. Dose, two tablespoonfuls, four or five times a day.

If borax be taken in the early months of pregnancy, it is liable to produce abortion, and hence, it should be avoided at such times.

BROMIDE OF AMMONIUM.

Prof. Goss says, "This article seems to exert a very kindly influence upon certain disorders of the nerve-centers. In that peculiar, irritable condition of the brain, originating from over-work, in which the patient cannot sleep, this is the remedy, *par excellence*." It will be found efficient, also, in asthma. It acts promptly in epilepsy and convulsions of children. Dose, from five to twenty grains.

BUCHU (*Diosma Crenata*).

Part used—The leaves.

This plant is mainly used for its favorable action on the urinary organs. It is a tonic. In inflammation of the bladder, kidneys or urethra, or irritation of these organs, it will be a very useful remedy. It prevents the tendency to the formation of calculi (stone in the bladder). It is used in the treatment of catarrh of the bladder, and in dropsy. It possesses the peculiar power to remove from the cavities superfluous fluid, which makes it useful in all forms of dropsy.

Prof. Wilson says, "I have frequently used the tincture, or fluid extract, in chronic gonorrhea and gleet with most prompt success." Dose of the fluid extract, ten to twenty drops, every four hours; of the powder, ten to fifteen grains, three times a day; of the infusion, half a teacupful.

Description and where found—It is a foreign shrub, and found in drug-stores only, in this country.

BUGLEWEED, Water Bugle, Water-Horshound, Sweet Bugle (*Lycopus Virginicus*).

Parts used—The leaves and stems.

It has been very successfully used in checking hemorrhages, both from the lungs and stomach, and has the reputation of curing consumption in its first stages. It is employed in diabetes or excessive discharge of urine—has cured this complaint when all other means failed. It is also used in diseases of the heart, chronic diarrhea and dysentery. Dose of the infusion, one-fourth to half a teaspoonful three times a day; of the powdered leaves, from one to two teaspoonfuls (one to two drachms).

Description—When fresh, it has a smell somewhat like turpentine, and a slightly bitter, disagreeable taste.

Where found—It is found growing near water-courses, swamps, etc.



Bugleweed.

BUCKTHORN (*Rhamnus Catharticus*).

Parts used—The bark and the berries.

The berries are an active cathartic, rather severe, and not much used for that purpose. The strong tincture of the bark is a valuable alterative in scrofula and skin-diseases. Dose, twenty drops, three times a day; of the fluid extract, from five to ten drops. It is a very positive remedy in skin-diseases, syphilitic affections, etc.

Description—It is a large shrub, with dark-brown bark and yellowish wood; leaves smooth, notched and of a bright-green color; the flowers are small, of a greenish color, and borne at the extremity of the branches of the former year; the berries are round and about as large as a pea, and, when ripe, are black and contain a green pulp, with four cells and as many seeds, which are smooth, convex on one side and flat on the other. It flowers in May and June, and ripens its fruit in September.

Where found—In most drug-stores.

BUCKHORN-BRAKE (*Osmunda Regalis*).

Part used—The root.

It is mucilaginous and tonic. The mucilage mixed with brandy is a very common and usually successful remedy for sprains and weak back; to be applied externally, three times a day. It is said to be almost

a certain cure for the rickets, prepared as follows: Place two or three roots in a quart of hot water and infuse for half an hour, when it will become a thick mucilage or jelly, and of this give a wineglassful four or five times a day. It will also be found very valuable for the whites. It is very good in coughs and diarrhea.

Where found—This herb grows in moist lands and is rather a beautiful fern, and should be gathered in the latter part of the summer. Found in all drug-stores.

BURDOCK (*Arctium Lappa*).

Parts used—The root and seeds.

An infusion of the seeds, or of the roots, of burdock, drunk freely, is an excellent remedy to prevent a repetition of boils. It has been very effective in curing scurvy, scrofula, syphilis and diseases of the kidneys. A pint of the infusion may be drunk in the course of twenty-four hours. The pulverized seeds, taken in doses of two teaspoonfuls, three times a day, has cured dyspepsia. It is valuable in rheumatism, dropsy and all diseases of the skin, or in any case when the blood is impure. The leaves will be found very useful, applied externally, in fevers, by bruising and applying to the forehead and bottoms of the feet.



Burdock.

The seeds are a very valuable blood purifier, either when used alone or combined with sarsaparilla, in equal parts. This plant is used with good success in curing all forms of tetter, but especially dry tetter. And it is an admirable remedy for boils, sty on the eye and felons. Dose, of the tincture, from thirty to sixty drops, four times a day.

Description and where found—Burdock is a well known plant, growing throughout the country, along roadsides, in old fields and around old buildings. Its height is from two to three feet, with very large leaves and purple flowers; having burs which stick to clothing when it comes in contact with them.

BUCKEYE-BARK (*Æsculus Glabra*).

This is very useful in congestion of the liver and womb and hemorrhoids, habitual constipation and all diseases of the bowels. Dose of the infusion, one teaspoonful; of the tincture, ten to twenty drops; of the fluid extract, five drops, three times a day.

BURGUNDY-PITCH.

A pure article is difficult to obtain. It is an excellent application for the whooping-cough, applied in the form of a plaster over the chest and stomach. For rheumatic swellings and weak back, it is highly useful as a plaster, which should be spread on a large piece of soft leather,

and worn as long as it will stick. This plaster is often used with great advantage for pains in the chest. This pitch forms an ingredient in various plasters.

Description—It is the concrete juice, hardened and purified, that exudes from the Norway Pine.

BUSH-HONEYSUCKLE (*Diervilla Trifida*).

Parts used—The root, leaves and twigs.

They have been employed with benefit in inflammation of the bladder, with gravelly deposits in the urine, disease of the kidneys and gonorrhea. The root has been recommended in syphilis, in the form of a decoction. The cold infusion may be drunk freely. Applied externally to parts that have been poisoned by the poison-vine, it relieves the itching.

Where found—It grows in almost all parts of the country, and found in drug-stores.

BUTTERNUT (*Juglans Cineria*).

Parts used—Bark, bark of the root and leaves.

Some medical authors say, "It is the best cathartic for dysentery, diarrhea and worms we ever employed, leaving the bowels in a better condition than almost any other medicine." It is usually employed by adding water to a quantity of the bark and boiling it down until it is reduced to a thick, soft extract and then made into pills.

by mixing, if necessary, a little wheat-flour with it in order to render it of the proper consistence to be made into pills.

Dose as a cathartic, three or four ordinary-sized pills: as a laxative in costiveness, one or two pills twice a day. If it is desired to use it in the form of a syrup, boil the bark until a syrup is formed, then sweeten to the taste.

Dose, two or three tablespoonfuls every hour, until it operates on the bowels.

Persons who were subject to the piles from constipation have reported it effectual and at the same time relieving the constipation. In such cases it should be administered in small doses, so as to keep up a soft state of the stools.

For tetter and other chronic skin-diseases it is reputed as an effectual cure. The tincture is to be applied externally, at the time of taking it internally.

When the fluid extract is used, the dose is thirty drops. The use of large doses of this medicine should not be persisted in, as it is liable to produce inflammation.

Juglandin—This is the active principle of the butter-nut. It is one of the most certain and efficient cathartics, but given in over-doses it is liable to produce griping.

It is a mild and certain remedy in consumption, when combined with *Apocynum* (*Bitter-Root*). This combination has proven an effectual remedy for expelling the thread or pin-worm. The dose is one-fourth to one-half a grain.

Where found—Juglandin can be found at the principal drug-stores: the tree, in nearly all parts of the United States.

BUTTON-BUSH (*Cephalanthus Occidentalis*).

Part used—The bark.

This is very useful in coughs, colds and diseases of the throat and lungs generally. Dose of the fluid extract, twenty to forty drops; of the infusion, one-fourth of a teacupful three times a day.

BUTTON-SNAKE ROOT, Backache Root, Devil's Bit, Gray Feather (*Liatris Spicata*).

Part used—The root.

It forms an excellent gargle in sore throat, and is valuable in affections of the kidneys and pain in the back. It is to be used freely in decoction, and is good in gleet and chronic leucorrhea. The dose of the decoction is half a teacupful three times a day. In some parts of the country it is considered a sovereign remedy for snakebite, in which case the fresh root is bruised, moistened with water and applied to the wound, while the patient drinks freely of a strong decoction. Dose, of the decoction, one-half a teacupful, or more, three times a day.

Description—Stem straight; height, from three to four feet; near the top there are buttons or flower-heads, half an inch or more in diameter, to which are attached the flowers, which are small, of a bright purple or bluish-red color.

Where found—On open lands and prairie countries.

CAMPHOR (*Camphora*).

It is used to allay nervous excitement and to induce sleep in wakefulness, and often in disease. In many cases it will cure headache, by taking a piece the size of a pea every half-hour. Its vapor will sometimes arrest the headache and will relieve faintness. It is of much utility in spasms, neuralgia, gout, rheumatism, typhoid fever and in all diseases of debility.

The tincture is invaluable for external uses, such as pains, soreness of the flesh, sprains, chilblains, bruises, etc. It is made by adding one ounce of the gum to one pint of spirits.

The spirits of camphor will check cholera in its first stages, when taken in drop-doses every five, ten or twenty minutes, according to the severity of the symptoms. Dose of the powder, from one to ten grains.

Where found—This gum is imported from China and the East Indies. Found in all the drug-stores in this country.

CANCER-ROOT (*Orobanche Virginiana*).

Part used—The whole plant.

This plant is used in the treatment of diarrhea, dysentery, bleeding of the lungs and nose. It has proved to be a very effective remedy for these purposes. Dose of the fluid extract, from ten to thirty drops, three times a day.

CANADA FLEABANE, Colt's Tail, Butter-Weed
(Erigeron Canadense).

Parts used—The flowers and leaves.

The extract, or the syrup, is very successfully used for bleeding of the lungs and other internal hemorrhages. The dose of the extract is a quarter to a half a teaspoonful (five to ten grains) repeated every five or ten minutes. In flooding and excessive menstruation it is a prompt and effectual remedy. Dose of the oil, from four to six drops, repeated every ten minutes. It is useful in dysentery, gravel and diabetes, given in infusion. Dose, a wineglassful four or five times a day. This oil is now ranked as one of the leading remedies for the cure of piles. Dose, five to six drops three times a day, mixed with six parts of castor oil, and use as a local application two or three times a day.

Description—Five to six feet high, with branching tops and bunches of small white flowers on the tops of the branches.

Where found—This plant is common to almost all parts of the United States, growing in old fields and roadsides. It can be found in drug-stores.



Canada Fleabane.

CARAWAY-SEEDS (*Carum Carvi*).

These are valuable for flatulent colic: especially that occurring in children. They are employed to stimulate the digestive organs, and to improve the taste of disagreeable medicines. The oil is more commonly used. Dose, from two to eight drops; of the powdered seeds, from ten to twenty grains (one-fourth to one-half teaspoonful).

Where found—A garden-plant, and sold in drug and grocery-stores.

CATECHU (*Acacia Catechu*).

This is a very powerful astringent, and is commonly used for its astringency. It is employed in contracting of the palate when it becomes elongated and is "down." It is successfully used to harden the gums when they become soft or spongy. For these purposes it should be applied in a strong solution. It is a good remedy for chronic diarrhea and watery discharges of the bowels. An infusion, snuffed up the nostrils, will generally stop bleeding of the nose. It is also useful in hemorrhages from the stomach, indolent ulcers, sore and cracked nipples, and in gleet. Dose of the tincture, a teaspoonful every three hours; of the powder, two to five grains.

Description and where found—Catechu is a dark-colored gum, obtained from a tree growing in the East Indies, and can be found in all drug-stores. It is readily dissolved in hot water or alcohol.

CARDAMOM-SEEDS (*Elettaria Cardamomum*).

They are chiefly used for wind-colic, either in infusion or tincture. They are also used with other medicines to render them more agreeable to the taste, and frequently chewed to destroy bad breath. Dose of the powdered seeds, from a fourth to one-half a teaspoonful.

The oil is more commonly used, the dose of which is from two to six drops.

It tends to promote the process of digestion, and strengthens the stomach.

Where found—In drug-stores—a native of foreign countries.

CASTOR-OIL (*Oleum Ricini*).

In consequence of the mildness of its action, this oil is regarded as a good cathartic for delicate persons. For those who are troubled with piles, rupture, inflammation of the bowels, chronic dysentery, it is better than active purgatives, for they are injurious in such cases.

There are other cathartics that are better adapted for *dyspeptics* than castor-oil, as it is oppressive to the digestive powers. It should not, ordinarily, be given to little children, for it produces ruinous effects on those who have weak digestive organs. Dose, for an adult, from one to two tablespoonfuls.

Description—This is an oil made from the seeds of

a large herb called *Ricinus Communis*—known as the castor-bean. It grows from six to eight feet high. It is a native of India, but is extensively cultivated in the United States.

In regard to castor-oil, as before mentioned, every mother should be apprised of the fact that it is ruining the digestion of thousands of little children. No wonder that this country has gained the name of a land of dyspeptics. It should be borne in mind that, as a rule, the less purgatives you use in the family the better you are off. An untold amount of injury is done to the system by raking it with cathartic medicines, most of which are more filthy and disgusting than the parts of the system upon which they are expected to act.

CARPENTER'S SQUARE, Figwort, Square-Stalk (*Scrophularia Nodosa*).

Part used—The root.

The root is good in scrofula, liver-affections and dropsy, and is used with success in obstructed menses, and in restoring the lochial discharge when it has too suddenly ceased. It is to be used in the form of a tea or infusion, three times a day. The leaves, either fresh and bruised, or if dry, softened with warm water, are very superior application for wounds, bruises, and old sores. It makes an excellent healing salve, stewed in lard, with a small portion of beeswax added.

Description—This plant may easily be known by its square stalk. It grows from four to five feet high. It has an erect stalk, with branches coming out at the joints. The flowers are of a greenish-purple color.

Where found—It is very common to most of the States, growing along roadsides and in open woods.

CATNIP (*Nepeta Cataria*).

Parts used—Leaves and stems.

A tea of this plant is a very valuable drink in fevers, to produce perspiration and induce sleep. It has proved efficacious in nervous headache, painful and suppressed menstruation, and will generally relieve children of wind or flatulent colic. Equal parts of warm catnip-tea and saffron are excellent in scarlet fever and small-pox, also, in colds and hysterics. It will relieve painful swellings, when applied in the form of a poultice or fomentation. A supply should always be kept on hand in every family where there are children, for colic, colds, fevers, etc. In the latter, it will produce perspiration without increasing the heat of the system. The tea may be drunk freely. But, if taken in very large doses, when warm, it frequently acts as an emetic. The better way to use it for suppressed menstruation, is to express the juice of the green herb, and take it in tablespoonful doses, three times a day.

Where found—In drug-stores, and in all parts of the country.

CEDRON-SEED (*Simaba Cedron*).

This is used in bilious fever, ague, dyspepsia and all derangements of the digestive organs. Dose of the fluid extract, one to eight drops, three or four times daily; of the tincture, the same.

CASCARA SAGRADA, Shittim Bark (*Rhamnus Purshiana*).



Cascara sagrada.

This drug has long been known to the Spanish residents of the Pacific Coast as a sovereign remedy for habitual constipation and dyspepsia, and will prove one of the most valuable of recent additions to our materia medica. In speaking of it, Alex. M. Cheek, M. D., Nashville, Tenn., says, "I deem it *the greatest* known remedy for constipation we have at the present day."

C. G. Polk, M. D., Philadelphia, in speaking of it, says, "Thus far the accumulated testimony goes a long way in demonstrating its efficacy in obstinate and habitual constipation. No agent heretofore employed has ever given the high degree of satisfaction that has been expressed of this one." The same meed of praise is likewise given for its curative effects in dyspepsia.

Dr. C. S. Wright says, "Of cascara sagrada my opinion is that it is the best remedy I ever used for constipation. I have used it in about one hundred cases of constipation, with invariably good results. What I wish to note particularly is in the constipation attendant upon

cancer of the stomach. I have prescribed for two of these cases. One of them has been under my observation nearly a year, and the cascara acts like a charm in relieving the bowels."

Dose, of the fluid extract, from ten to thirty drops, three times a day.

CHAMOMILE (*Anthemis Nobilis*).

Part used—The flowers.

The cold infusion is a good bitter tonic, and taken two or three times a day is very valuable in dyspepsia and in all debilitated conditions of the stomach, and very useful in female weakness. The herb, bruised and moistened with vinegar, is an excellent application for sprains and bruises.

Dose of the tea, from two to three tablespoonfuls, two or three times a day. The oil of this plant is a good remedy in cramp of the stomach, colic and in hysterics. Dose, from ten to fifteen drops, twice a day.

Where found—Growing in gardens.

CAYENNE PEPPER, *Capsicum*, Red Pepper (*Capsicum Annuum*).

This is an important remedy in the cholera: when combined with equal parts of salt, say one-half ounce of each to one pint of good vinegar, given in tablespoonful doses, it will stop vomiting, in both cholera and cholera-morbus.

The "Cayenne gargle" is used with admirable success in scarlet fever. Dr. Stephens says that he employed it in nearly four hundred cases with surprising success. He asserts that the ulcers in the mouth soon began to heal and the vital powers assume a more healthy condition. It is to be prepared in the following manner: "Two teaspoonfuls of common Cayenne pepper, and two teaspoonfuls of fine salt; mix them together; pour upon them one-half pint of boiling water; strain, and add one-half pint of good vinegar; when cold, give from half to a tablespoonful to a grown person, every hour, and gargle the throat frequently with it." See "Table of Doses for Children" in Vol. I.

The cold infusion is very useful in colds, catarrh and hoarseness.

Dr. Howard says he has found it to be effective in removing female obstructions.

It is employed in fevers, inflammations, piles and liver-complaint.

The tincture or infusion will be found efficacious as a gargle in chronic quinsy. It is often employed to very great advantage sprinkled on foul ulcers, or steeped in vinegar to bathe parts affected with rheumatic pains, as well as all inflamed parts. A weak tea is a very superior wash for sore eyes, applied four or five times a day. When it is desired to produce perspiration, this is one among the best of agents. The warm tea should be given to the patient on retiring at night. Mixed with spirits of turpentine, and applied to kernels or tumors, it will disperse them. The tea, or powder, is an admirable remedy for checking hemorrhage of the womb.

It is also valuable in aiding digestion in persons having dyspeptic stomachs.

For colds, it may be used in the form of a tea, or a teaspoonful of Cayenne mixed with molasses, taken in broken doses, during a period of four to five hours. An

ordinary dose of the tincture is half a teaspoonful; of the powder, five to six grains.

Description and where found—This is one of the species of red pepper. It is a foreign plant, and frequently found growing in gardens in this country, and at all drug-stores.

CENTAURY, Rose-Pink, American Centaury
(*Chironia Angularis*).

Parts used—Leaves and flowers.

It is very effectual in preventing fevers if taken daily in the form of bitters.

A decoction of the leaves will expel worms. Dose, one or two tablespoonfuls, according to age, two or three times a day; repeat for several days.

Centaury is tonic and restorative, and is esteemed very highly as a bitter tonic for strengthening the stomach.

Where found—In meadows, moist lands and fields.

Description—Height, from one to two feet. The flowers, which appear in July and August, are of a beautiful rose-color, an inch or more in diameter and somewhat in the shape of a pink-blossom.

CHARCOAL (*Carbo*).

In many cases of headache, two teaspoonfuls of pulverized charcoal, in half a teacupful of water, will effectually relieve the patient in a very short period of time, more especially when there is acidity of the stom-

ach. And in cases of costiveness many persons are cured by taking a tablespoonful three times a day.

It is of great utility in arresting mortification of the bowels, taken in large doses.

When it is used to check mortification occurring in other parts of the system, apply it in the form of a poultice. It is very serviceable in bleeding from the stomach, in intermittent fever, dyspepsia and dysentery. It will usually regulate foul breath. Dose, from one to three teaspoonfuls, three times a day. In urgent cases it may be used every two or three hours.

In nausea and vomiting, attending pregnancy, half to a teaspoonful, once or twice a day, will afford much relief. It is used with good effect in old sores, where there is an acrid and offensive discharge, mixed with flaxseed meal. It is also sprinkled over sloughing ulcers, to promote separation of the decaying parts. Mixed with corn-meal and wet with a strong ooze of oak-bark, it is a good application to parts in a state of gangrene, or mortification. Charcoal, prepared from the young shoots of willow, is preferable for most medical purposes. This preparation can now be found in all drug-stores.

CINNAMON (*Laurus Cinnamomum*).

Part used—The bark.

For hemorrhages from the womb the tincture of the bark can, as a general rule, be relied on, given in teaspoonful doses about every ten minutes. The oil is used in toothache. Moisten lint with the oil and insert into the cavity of the tooth. Colicky pains of children are usually relieved by rubbing along the spine a heated

mixture of one part of the oil with four parts of olive-oil. A tea of cinnamon will generally relieve ordinary colic and cramps or pain in the stomach. It is also excellent for checking vomiting and sickness of the stomach. Being an important astringent, it is an admirable remedy in all bowel-complaints, as dysentery, diarrhea, cholera-infantum, etc., either alone or in combination with cloves, allspice or blackberry-root. Dose of the tea, two or three tablespoonfuls; of the tincture, from one to five drops.

Description—It is stimulant, astringent and carminative.

Where found—Cinnamon is the bark stripped from small limbs of the trees which grow in Ceylon, Borneo and China.

CHEESE-WEED, Malice (*Malva*).

Parts used—The plant and the roots.

A decoction of the roots and tops of this plant, taken freely, three times a day, is a very prompt and effectual remedy for the cure of water-brash. It is also accounted very efficacious in fevers. In acute forms the decoction should be drunk every three or four hours, and at the same time bind the herb as a fomentation on the bottoms



Cheese-Weed.

of the feet, and palms of the hands. The Spanish people assert that they can "break up" almost any case of fever with it. This is a good remedy among them, for the cure of venereal diseases. The tea is to be drunk freely, four or five times a day. It is an excellent remedy for healing purposes. The better mode of preparing it for this purpose is to make a salve, by stewing it with fresh lard.

Where found—In all parts of the country, growing in the greatest abundance.

CHRISTMAS-ROSE, Black Hellebore (*Helleborus Niger*).



Christmas-Rose.

Part used—The root.

This plant is chiefly used in the various forms of dropsy, especially dropsy of the brain, in the cure of which it is a justly celebrated remedy. Dose, of the fluid extract, three to five drops; of the essential tincture, five to ten drops, three times a day.

Description—This plant flowers from December until March, hence its name, "Christmas Rose." It is an elegant plant, with

large, concave flowers, white with a tinge of blush color which are finely contrasted with the ample, dark, shining foliage. The roots are perennial, creeping, very black externally, with numerous long, simple, perpendicular fibers. From this root we obtain a brownish, straw-yellow tincture.

Where found—It grows on rocky and woody mountains and cultivated in gardens as an ornamental plant.

COLCHICUM (*Colchicum Autumnale*).

Parts used—The roots and seeds.

In reference to this plant, I. J. M. Goss, says, "In gout and rheumatism, it is an old and reliable remedy. I now use the essential tincture made by adding six ounces of the seeds or the corms to one pint of alcohol (76°). Dose, from five to fifteen drops; the dose of the fluid extract, five to ten drops." It is also employed in dropsy, palpitation of the heart and diseases of the blood. It should be used with caution, for in large doses it is a narcotic poison.

Where found—At drug-stores.



Colchicum.

CLEAVERS, Goosegrass (*Galium Aparine*).

Cleavers.

Part used—The whole herb.

There are several species which contain similar medical properties and are used generally in the form of an infusion.

It is an excellent and speedy remedy in suppression of the urine and gravely complaints. It is made by adding three ounces of the herb to two pints of water and letting it stand three or four hours, when it may be freely drunk.

It is regarded as a solvent of stone in the bladder and a very popular remedy in the treatment of gonorrhea. The cold infusion will remove freckles when it is drunk two or three times a day, for two or three months, and the parts frequently washed with it.

The cold infusion has recently been used with decided success in treating children for incontinence of urine (wetting the bed). It should be drunk three times a day.

Description and where found—This plant grows from two to four feet high: stem square, slender, having many joints; leaves pointed; flowers small and white. Grows in the woods and on the roadsides.

CHIRETTA (*Gentiana Chirayta*).

Chiretta is recommended in dyspepsia, in the debility of convalescence and generally in cases where corroborative measures are indicated. It has been successfully employed in India, in the treatment of intermittents and remittents. Dose of the fluid extract, from fifteen to thirty drops.

COCA-LEAVES (*Erythroxylon Coca*).

This is a powerful nerve-excitant, resembling tea and coffee, giving great vigor to the muscular system, sustaining the human frame under extreme exertion and fatigue. It is of value in cases of despondency, debility and broken-down constitutions; also for public speakers and young persons affected with timidity in society. Dose, of the fluid extract, two to three teaspoonfuls; of the solid extract, six to twelve grains; of the sugar-coated pills, two to three.

COMFREY (*Symphytum*).

Part used—The root.

The root of this plant, bruised and made into a poultice, is an excellent application for bruises, painful swellings and sore breasts, etc. It is slightly astringent, and there-

fore very serviceable in diarrhea and dysentery. It is good in bronchitis, coughs, bleeding of the lungs and leucorrhea.

A syrup made of equal parts of comfrey and elecampane-roots is a most valuable remedy for coughs, consumption and all affections of the lungs.

It may be boiled in water or wine, or made into syrup. Dose, from half to a wineglassful, or more, three times a day.

Where found—Growing in gardens and found in drug-stores.

COLOCYNTH, Bitter Cucumber, Bitter Apple (*Cucumis Colocynthis*).

Part used—The pulp.

This is a very harsh medicine and is not much used now, except in the form of a compound extract, which may be obtained at drug-stores. It is employed in congestion of the brain and liver and often used as a cathartic, especially in dropsy. Dose, from five to eight grains.

Where found—This is a foreign plant, but can be had at any drug-store.

CLOVES (*Eugenia Caryophyllata*).

The oil of cloves is used to cure the tooth-ache; a little of which may be put on cotton or lint, and introduced into the cavity of the tooth. Boil, for a short time, two or three tablespoonfuls of cloves in half a pint of sweet

milk, and give a tablespoonful of this as hot as can be borne, every fifteen to twenty minutes, and it will very promptly cure the cholera morbus. It is very useful for checking vomiting and for allaying nausea, and will relieve flatulent (wind) colic. It is also used to aid digestion. Also employed, with other medicines, to prevent them from griping, or from producing sickness of the stomach. It may be used freely in the form of an infusion. Dose of the powder, two or three grains; of the oil, one or two drops.

CORIANDER SEED (*Coriandrum Sativum*).

They are chiefly employed to improve the taste of other medicines, and sometimes as a stimulant, where a mild one is needed. It is carminative, and used for expelling wind from the stomach and bowels.

The seeds are sometimes used for seasoning sausages, meats, etc.

Description—It is a small, annual plant, growing from one to two feet high. The seeds, when dry, are very fragrant.

CORN-SMUT (*Ustilago Maidis*).

This is used as a substitute for ergot of rye, to increase the regularity and power of the pains in child-birth. It gives less pain to the mother, less danger to her in its administration, and also less danger to the child. It has

been pronounced superior to ergot in some kinds of hemorrhages, and also very efficient in spermatorrhea and some forms of skin-diseases. Dose, ten to twenty drops.

COLUMBO-ROOT, Yellow Gentian, Meadow-Pride, American Columbo (*Rodix Columbae*).



Columbo-Root.

Part used—The root.

It possesses tonic properties, and is used in dyspepsia, chronic diarrhea and dysentery, convalescence from exhausting diseases and muscular debility of children. Prof. Rafinesque says, "It has cured a wide-spread gangrene of the lower limbs, by internal use and external application.

For the oppression caused by an overloaded stomach, so common with dyspeptics and other weak patients, the powdered root is an admirable remedy. Dose, a teaspoonful in water. Taken with cold water adds to its efficacy and prevents any tendency to nausea and vomiting. As a laxative, it is valuable, especially for children and the costive habits of pregnancy.

It is often combined with wild cherry, golden seal, or bitter-root, for making restorative bitters.

It may be used in powder in doses of twenty grains

to a teaspoonful, two or three times a day, and in infusion, in doses of a half to a wineglassful three times a day, as a tonic and stomachic.

Description—Root, rough, spindle-shaped, and yellow: sometimes growing to the depth of two feet. The stem is from five to ten feet high, smooth and with but few branches, except near the top, and has numerous yellowish-white flowers.

Where found—Mostly in open woods, barrens and meadows.

**CORN SNAKEROOT, Rattlesnake's Master,
Bear-Grass (*Agave Virginica*).**

Part used—The root.

There are several species of this plant which possess similar medical properties. It is most celebrated for its speedy cure of the bite of snakes. It should be bruised or chewed and applied to the wound, and a portion of the juice swallowed at the same time. A tea of the root forms an excellent gargle for sore throat. It is employed in leucorrhea in the form of an injection.

A decoction of the plant has effectually cured gonorrhea.

Dose of the decoction or tea, from one-fourth to half a teacupful, three times a day.

It is also reputed a good remedy in gravel and dropsy.

Some physicians regard this plant as a positive remedy for influenza or catarrh.

Dose of the fluid extract, from twenty to thirty drops; of the saturated tincture, thirty drops to one teaspoonful.

Description—It grows about two feet high, bearing on its top large balls covered with white bloom. The root is about two inches long, and bulbous.

COLLODION.

It is usually applied to abrasions of the skin, cuts, wounds, sore breasts, "big neck," burns, etc., over which it forms a film or thin scale, protecting the parts from the action of the atmosphere. A fine brush should be employed for the purpose of applying it, and if the first coating is not thick enough, additional layers can be applied as soon as the previous one has become dry. When one becomes broken or worn off, renewed applications should be made.

Description and where found—It is a solution of gun-cotton in ether and should be kept in well stopped bottles; otherwise, it will become unfit for use. It is found in drug-stores.

COLUMBO AFRICAN (*Cocculus Palmatus*).

Part used—The root.

The infusion or tincture of this plant is excellent for weak digestion, dyspepsia and in weak and debilitated conditions of the system. It is an important ingredient in restorative bitters. It is said to be useful in chronic diarrhea and dysentery, and will usually control the vomiting of pregnancy. It is a good tonic in all cases

when such is needed. Dose of the bitters or infusion, from a half to a wineglassful twice a day; of the tincture, one teaspoonful; of the powder, eight to fifteen grains.

Where Found—This is a foreign plant, but is kept in drug-stores.

COTO BARK.

Dr. Von Guk, of Hamburg, says, "This is almost a specific for the cure of diarrhea in its various modifications." It is also recommended in dysentery, cholera morbus, colic, gastric catarrh, neuralgic toothache, gout and rheumatism. This new bark, from Bolivia, is said by Prof. Gietl, of Munich, to be a specific for diarrhea in its most diverse forms. He administers it in doses of 0.5 gramme of the fine powder four or six times a day. Of the tincture, he usually gives ten minims every two hours. In Bolivia, whence the plant was sent, it is regarded as a remedy for the cure of rheumatism and gout. Dose of the fluid extract, from one to three drops, four to six times a day.

COUCH-GRASS (*Triticum Repens*).

Part used—The root.

This is an efficacious remedy for irritation of the bladder, where there is excessive pain and frequency in passing urine. It is very extensively used, both in this country and in Europe, for this purpose. Dose of the

fluid extract, from one to two teaspoonfuls in water, three times a day. This remedy is highly recommended by Dr. Thompson for lessening the frequency and pain of irritation in cases of excessive irritation of the bladder from any cause. For this purpose great quantities have been consumed in the hospitals of Paris.

COTTON-PLANT (*Gossypium*).



Cotton-Plant.

Parts used—The bark of the roots and the seeds.

The inner bark of the root is used with excellent effect to restore the menses when they are suppressed. For this purpose, add a quarter of a pound of the bark to one and a half quarts of water and reduce by boiling to one pint. This quantity should be taken in the course of the day. As a parturient—to facilitate child-birth—it may be given

in doses of half a wineglassful every half-hour. In obstructed menstruation its use should be continued daily until the desired effect is produced. A strong decoction of the seeds is reputed to be an effectual cure for fever and ague. The bark of the root tinctured in sweet spirits of nitre is very effectual, both in painful and suppressed menstruation.

Where found—In warm climates in all parts of the world. It produces the common cotton of commerce.

COWHAGE (*Mucuna Pruriens*).

Part used—The hairs of the pods and the root.

An infusion of the pods, ten to the quart of water, is accounted a certain remedy in dropsy and likewise for worms. For the latter purpose the pods are dipped into syrup or molasses and the hairs are scraped off and kept for use. The dose of this liquid is a tablespoonful for an adult and a teaspoonful for a child, night and morning, for several days, then followed by a cathartic. It acts like the filings of tin, that are used also to cut up the worms, especially the tapeworm. It is convenient to give with the oil of male fern. The cowhage may be given for the threadworm, a small, thread-like worm that inhabits the stomach and upper bowels and is very hard to dislodge from its position. Twelve hours after the medicine is taken, a mild purge should be given to carry them off.

Description—The cowhage grows in hot climates, especially in the West Indies. It bears a pod about four inches long, round and about the thickness of one's finger. These pods are thickly beset with stiff hairs, which, when applied to the skin, occasion an intolerable itching.

COWSLIP, LUNGWORT (*Caltha Palustris*).

Part used—The leaves.

It is used for bleeding of the lungs and in all lung-affections. Also in dysentery and diarrhea. The infusion may be drunk freely.

Where found—In wet, boggy lands and cultivated in gardens.

COW-PARSNIP, Wild Angelica, Masterwort
(*Heracleum Lanatum*).

A strong decoction of this plant has often cured epileptic fits. It should be perseveringly used. The seeds are very useful in the treatment of dyspepsia and flatulence, or wind-colic, used in the form of an infusion. It is also reputed to be good in asthma and palsy. The dry root should always be used, as the green is said to contain certain poisonous properties.

Description—Height, from three to four feet; stalk, hollow and covered with a sort of down. It bears large branches of white flowers; the leaves are jagged, large and hairy. The root is large, spindle-shaped, and has an unpleasant smell when fresh.

Where found—Usually in moist soils and meadows.

CRAWLEY, Coral Root, Dragon's Claw
(*Corallorhiza Odo*).

Part used—The root.

It is usually employed in low stages of fevers, as typhoid and inflammatory fevers, in doses of twenty to twenty-five grains, and repeated every two hours. It promotes perspiration without increasing the heat of the system or action of the heart.

For cramps, this plant is perhaps unsurpassed.

It is a most excellent remedy in the early stages of

child-bed fever. Some medical authors regard it as unsurpassed for after-pains, when combined with blue cohosh, and also for restoring suppressed lochial discharge.

Description—Resembles the beech-drops; growing from ten to twenty inches high; leafless, with coral-like stalks; of a pale-yellow color, with a covering of a sort of sticky wool and scales, answering for leaves.

Where found—Usually in rich woodlands, and about the roots of trees.

CROTON OIL (*Croton Tiglium*).

It is often used to produce irritation of the skin, instead of a blister-plaster. A few drops rubbed on the affected part will be sufficient to effect such a purpose. One drop will act on the bowels very actively and usually in less than an hour. It is useful in rheumatic and neuralgic affections, and in diseases of the throat, when one part of it is combined with four parts of olive-oil and applied externally to the affected parts, three or four times a day. The dose, internally, is from one to three drops, on sugar, and repeated every two or three hours, until it operates. It has been employed in coma or stupor, mania, dropsy, and in obstinate obstructions of the bowels, as in cases of severe colic, when all other means have failed. It is well adapted to cases in which the patient is unable to swallow, as a drop on the tongue will be absorbed into the system, and produce the cathartic effect.

CUBEBS (*Piper Cubeba*).

Parts used—The berries and the oil.

They are found useful in catarrh of the bladder, whites, gleet, and are highly recommended by some in gonorrhea. For this disease a teaspoonful of the powdered cubebs, with the same amount of balsam of copaiba, is often employed, given three times a day; but the cubebs are usually employed alone, in teaspoonful doses. When the oil is used, a dose is from fifteen to twenty-five drops, three times a day; of the tincture, use one teaspoonful.

Cubebs are also frequently employed in the treatment of colic, kidney-disease and pain in the bowels. They should never be used in cases of active inflammation.

CUTTING ALMOND (*Parthenium Integrifolium*).

Part used—The root.

It is useful in diseases of the kidneys, gravel, scalding of urine and affections of the bladder. The root is to be sliced into cold water, and of this drink about a pint in the course of the day. It is considered a good aromatic and stimulant bitter.

Description—The stem rises from eighteen inches to two feet high, and generally there are several from the same root. They are round, very hard, and of a dark red color. Flowers grow at the extremities of the

branches and are a kind of a white button. The root is very singular. It is blackish outside, and bluish-gray within. It starts out at first quite small, from a sort of head, soon increases in size and finally terminates abruptly, as though it had been cut off; from this larger part, other small roots go off, which increase in size and terminate in the same way.

Where found—This plant is common to most of the States.

DAMIANA (*Turnera Aphrodisiaca*).

This is a Mexican drug, with strong aphrodisiac powers, for which is claimed great efficacy in sexual debility, or lethargy of the sexual organs, whether the result of abuse or senility. Many cases of total or partial impotence have been cured by the use of this drug, where the usual remedies have given no relief. This plant is also employed in nervous diseases in general. Dose, of the fluid extract, from fifteen drops to a teaspoonful; of the solid extract, three to six grains; of the sugar-coated pills, one to two. A writer from Mexico gives the following:

LA PAZ, MEXICO, August 1, 1877.

The drug is certainly wonderful in its action in many cases, and remarkable cures from its use have occurred under my observation. Practicing physicians tell me they have rarely known it to fail—if used properly, and country people—"rancheros"—seem to repose more faith in the efficacy of this drug than in the doctors themselves, and look upon it as a sort of panacea for all ills. Their method of preparing it for use, generally,

is very simple. They steep it and add sugar, making a not unpalatable beverage, which is often used at table as we use our tea and coffee. Having great faith in its efficacy in extraordinary occasions, they think it proper in ordinary ones as well, and will often tender a cup of it to a guest, with an assurance that it is good as a preventive as well as a curative. In fact, their faith in it seems to be unbounded.

I take pleasure in giving this testimony, from a conviction resulting from careful observation, that "damiana" possesses tonic qualities that should be better known.

Yours very respectfully,

F. B. ELMER, late U. S. Consul.

W. H. Myers, M. D., of Philadelphia, writes, "In June last I received a circular from Lehn & Fink, of New York City, calling my attention to Parke, Davis & Co's preparation of damiana. Since then I have given it quite an extensive trial in my private practice, and, as a result, I find that in cases of partial impotency or other sexual debility, its success is universal. In fact, it has produced favorable results in some cases that I deemed hopeless on account of their resisting entirely the action of the remedies usually specified in such cases. I therefore pronounce it the most effective and only remedy that in my hands produces a successful result in all cases. The only objection to its use is its liability to produce disorders of the digestive system, but by combining it with cinchona and sherry-wine it partially obviates that tendency.

DANDELION (*Taraxacum Dens Leonis*).

Part used—The root.

It is employed in cases of dropsy, which are accompanied with indigestion, in nervous dyspepsia, and in some forms of constipation. In liver complaint it is invaluable, also very useful in chills, diseases of the kidneys, spleen and skin. Dose of the decoction, from two to three tablespoonfuls, three times a day; of the extract, five to twenty grains.



Dandelion.

The fresh root, gathered in Autumn, is the best.

Where found—This plant grows in open lands in all parts of the country.

Description—It has bright-green leaves, deeply notched. The flowers are of a golden-yellow color, on flower-stems about six inches high, and it abounds in a milky juice while fresh.

DEWBERRY (*Rubus Trivialis*).

Part used—The root.

It is similar in its properties and effects to the root of the common blackberry, and employed in all bowel com-

plaints, as dysentery, diarrhea, cholera-infantum, etc. The infusion may be taken freely.

Description—This is a species of the blackberry, having a small vine, which runs on the ground; leaves somewhat like the blackberry, and bearing a sweet, dark-red or black berry, very similar to that of the high blackberry. It is found growing in dry, gravelly ground, or old, neglected fields.

DWARF-ELDER (*Aralia Hispida*).

Parts used—The bark, root and flowers.

It is employed in diseases of the urinary organs, such as gravel, suppression of the urine, kidney-affections and in dropsy. An infusion of the bark of the root is the best preparation. Dose, a wineglassful three times a day.

Description and where found—It is a shrub, growing from one to two feet high, along roadsides and on rocky land. The berries hang in bunches, and when ripe are round in form and have a black color and an unpleasant taste. It is a species of the common elder.

DITTANY, Mountain-Dittany, Mountain-Mint (*Cunila Mariana*).

Part used—The whole plant.

It is nervine stimulant and tonic. It is a popular remedy in many sections of the country for colds, fevers, headaches, hysterics, and in all cases in which it is

desired to excite perspiration. The warm tea is to be drunk freely. The Indians, it is said, employ it to heal wounds.

Description—Height, from twelve to eighteen inches. It has a slender, smooth stem, of a yellowish or purplish color; branches opposite, or nearly so; leaves small, smooth, deep-green on the upper, and bluish-green on the under surface.

Where found—Usually among rocks and on dry knobs.

DOGWOOD (*Cornus Florida*).

Parts used—Bark of the tree and of the roots.

It is a valuable tonic and somewhat astringent. It is an excellent remedy for fever and ague and useful in typhoid and periodical fevers. It is regarded as a good substitute for Peruvian bark, from which quinine is made, and many use it in place of quinine in these diseases. Dose of the powdered bark, from half to a teaspoonful; of the extract, five to ten grains.



Dogwood.

Description—This is a small tree, and usually from fifteen to twenty feet high. The flowers have a beautiful, clear-white color, presenting a very fine appearance.

DOG-FENNEL, May Weed (*Anthemis Cotula*).

Dog-Fennel.

Parts used—

Flowers and tops.

This is a valuable plant; very useful in colds, asthma, dropsy, fevers and rheumatism. Taken warm in small doses it produces copious perspiration. Externally this herb combined with hops or smart-weed or with both makes a very

valuable fomentation, applied hot to the abdomen in inflammation of the bowels. A cold infusion taken in doses of two wineglassfuls three times a day has often cured fever and ague. Those needing a tonic will find this to be a very valuable one. When taken in large doses it is emetic.

Where found—This is a very common plant, growing in all parts of the country.

**DOGTUOTH VIOLET, Yellow Snowdrop, Adder
Tongue, Rattlesnake Violet** (*Erythronium
Americanum*).

Parts used — The leaves and root.

This plant is unsurpassed for healing scrofulous ulcers. The fresh root, or the root and leaves combined, are to be boiled in sweet milk or cream and applied in the form of a poultice; at the same time a decoction is to be taken internally.

Description—This is a small plant, having but two leaves (but one the first year), which are smooth, lance-shaped, about five inches long and covered with dark purple spots. From between the two leaves rises a stem, several inches in length, on which appears a single yellow flower. The root is covered outside with a sort of loose tunic, and a number of small fibrous roots issue from the bottom.



Dogtooth.

EVENING PRIMROSE (*Oenothera Biennis*).

This is an efficient remedy as a nervine and sedative, to quiet nervous sensibility. Hence it is well adapted

to painful and neuralgic affections of the lungs, stomach, heart, liver, bowels and the womb; also in whooping-cough, spasmodic asthma, and cough of a nervous or spasmodic character. Prof. Davis has employed this plant in more than twenty cases of asthma, conjoined with irritability of the stomach, and reports its use as being very successful. Dose, from half to one teaspoonful of the fluid extract every four to six hours, or more frequently as the case may seem to require.

ELECAMPANE (*Inule Helenium*).



Elecampane.

Part used—The root.

It is a celebrated remedy for the cure of coughs and incipient consumption, and has often been used with good success in the treatment of dyspepsia, torpor of the liver, asthma and obstructed menstruation. Externally it forms a good application for tetter and the itch. Dose, from half to a teacupful three or four times a day. It gently loosens the bowels, and possesses the general properties of a strengthening and restora-

tive medicine. It is sometimes used to expel worms.

Description and where found—A very common plant, growing about houses and in cultivated grounds, producing large leaves and yellow blossoms.

ELDER (*Sambucus Canadensis*).

Parts used—Inner bark of the stalk, the root, flowers and berries.

The bark, infused in wine, is very efficacious in dropsy. A tea of the flowers is good in all bowel complaints of children and in liver affections, and is a good blood purifier; hence useful in eruptive diseases, erysipelas, syphilis and scrofula. A salve formed by stewing the fresh bark in lard is excellent in burns, cuts, sores, etc.

Where found—In waste places, thickets, along fences, on uncultivated lands.

Description—Height, from eight to ten feet; flowering in May and June; the flowers small, white, covering the whole top of the bush, and of a fragrant smell. The berries are small, very numerous, hang in large bunches, juicy, sweetish, slightly acid, and of a dark-purple or black color when ripe. The stock contains a large spongy pith.

EGG (*Orum*).

The egg is nutritious and slightly laxative, and will, on account of its easy digestibility, be found useful in dyspepsia, consumption and other diseases, where lax food is required. Equal parts of the white of egg and salt will always disperse a felon, if applied in time. The lining membrane of the shell is used sometimes for the same purpose. When taken raw, they are an excellent

remedy for jaundice; one should be taken before each meal. White of egg is very valuable as an antidote for poisons. The yolk, boiled hard and compressed, yields a fixed oil that has been found useful as an application to sore breasts.

The white of an egg has been found one of the most efficacious remedies for burns. Seven or eight successive applications of this substance soothe pain and effectually exclude the burn from the air. This simple remedy seems preferable to collodion, or even cotton. Extraordinary stories are told of the healing properties of a new oil which is easily made from the yolks of hens' eggs. The eggs are first boiled hard, and the yolks are then removed, crushed and placed over a fire, where they are carefully stirred until the whole substance is just on the point of catching fire, when the oil separates and may be poured off. It is in general use among the colonists of South Russia as a means of curing cuts, bruises and scratches.

EVAN-ROOT, Throat-Root, Chocolate-Root (*Geum Virginianum*).

Part used—The root.

The root of this plant is very useful in dyspepsia and in bleeding at the lungs, consumption, diarrhea, dysentery, colic, sore throat, etc. Said by Dr. Jones to restore to health the most feeble and shattered constitutions. The root is used boiled in milk, or in water, sweetened, and makes a palatable drink, or in powder. The dose is a pint of the decoction, daily, or two or

three teaspoonfuls of the powder mixed with honey or syrup.

Description—Height about three feet, stem round, hairy, and surmounted by a few white flowers. The root small, brown, horizontal and crooked.

ELIXIR IODO, Bromide of Calcium.

This preparation is highly praised, on account of its curative effects in scrofula and all kindred diseases. As a blood-purifier, it is said to stand unrivaled. The dose is one teaspoonful, three times a day.

FENNEL-SEED (*Feniculum*).

This makes an excellent infusion for colic, cramps of the stomach and griping. It is often combined with other medicines to render them more agreeable. Dose of the infusion, from one-fourth to a teacupful; of the powdered seed, from ten to twenty grains.

Where found—In gardens and drug-store.

FERN ROOT, Female Fern, Rock-Brake, Polypody (*Polypodium Vulgare*).

Parts used—Roots and tops.

A strong decoction will expel worms, but especially celebrated for its prompt action in relieving patients

afflicted with the tape-worm. A syrup made of this plant is very efficacious in pulmonary diseases. Combined with liverwort it is said to have restored patients severely afflicted with diseases of the lungs.

Where found—Very common on rocky lands and mountainous sections of the country.

FIELD-BALSAM, Indian Balsam, White Balsam, Balsam-Weed (*Guaphalium Polycepholum*).

Part used—The leaves.

A warm tea drunk freely is a very good remedy in quinsy and sore throat. Those that are troubled with sore mouth will generally obtain relief by chewing the leaves.

It is employed in bleeding of the lungs, diarrhea and dysentery.

It is valuable for healing purposes.

Sores, swellings and bruises are very much benefited by the application of a fomentation of this plant. Many recommend it in lung-diseases. It may be used freely in infusion.

Description—Height from two to three feet, stalk erect and branched, leaves alternate, green on the upper side, whitish and fuzzy beneath, flowers yellow, pleasant, balsamic smell, and slightly bitter and rather agreeable taste.

Where found—It is found growing generally in dry, barren places, in old fields and on poor land.

FEVERFEW (*Pytherum Parthenium*).

Part used—The leaves.

This is an admirable remedy for the cure of St. Vitus's dance. It should be given for several days in succession; two or three teacupfuls of the infusion during each day, divided in half-teacupful doses.

It is very useful in irregularity of the menses, colds and suppressed urine. The infusion is to be drunk warm, four or five times a day. It is an excellent tonic and nervine and also very useful for promoting perspiration in fevers.

Description—Height from one to two feet, leaves grayish-green color, flowers white and appearing in June and July.

Where found—Growing wild and cultivated in gardens.

FIVE-FINGER (*Potenilla Canadensis*).

Part used—The root.

It is used in the treatment of bowel-diseases, excessive menstruation and hemorrhages from the womb. A decoction taken freely three times a day is an admirable remedy for night-sweats and forms an excellent gargle for ulcerated sore throat.

Dose of the infusion, from one-fourth to one-half a teacupful, three or four times a day.

Description—It is vine-like in form, growing from

one to two feet high and having five leaves in a bunch and yellow flowers.

Where found—Usually in meadows and on the borders of streams.

FIRE WEED (*Erechtites Hieracifolia*).

Part used—The leaves.

It is a prompt and efficient remedy in bloody flux, administered either in a strong decoction or the alcoholic extract. It is an important article as a purifier of the system in scrofula, boils, pimples, erysipelas, sore eyes, etc. It is highly recommended for cholera-morbus and for summer-complaints of children. Of the infusion or tincture, take a tablespoonful three times a day.

Description—It has a large, rough stalk, three to six feet high, with light-green leaves, and white flowers. The plant has a strong, unpleasant odor and bitter, disagreeable taste.

Where found—In moist lands and open woods, especially where the ground has been burned over.

FIRWEIN.

This comparatively new medicine is prepared from several different medical plants, with a definite quantity of phosphorus, iodine and bromine added to each pint.

It can usually be found in drug-stores.

This is one among the best remedies in lung-diseases ;

and in catarrh it has proven very successful, and likewise in bronchitis, in which its use has been attended with the best results, as many effectual cures have been reported from its use.

It is highly praised in nervous headache, and also in diabetes. But it is more celebrated for the cure of consumption and bronchitis, so far as it has been tested, than perhaps in any other disease. In fact it is proving more efficient for most of the diseases, in which it is employed, than any remedy yet discovered. The dose is from one to two teaspoonfuls, three or four times a day.

FLAXSEED (*Linum Usitatissimum*).

Some of the worst cases of piles have been cured with the oil in less than a month, taken in doses of two tablespoonfuls twice a day. For coughs and diseases of the lungs, it is a very superior remedy. Two ounces of the seeds should be infused in a quart of water, and the half, and in severe cases the whole of it, should be drunk in the course of twenty-four hours. It may be sweetened with loaf-sugar or honey, in order to make it more palatable. Equal parts of *linseed oil* and lime water, is a very effectual remedy in burns. The infusion is highly useful in flux and dysentery. For this purpose, add two ounces of the seed, to a quart and a half of boiling water, and infuse for an hour, and drink half of this during the day. For ulcers, inflammations etc., flaxseed makes a very effectual poultice, by boiling it with water or sweet milk. The oil of flaxseed, called *linseed-oil*, is a good substitute for castor-oil, as it is much milder in its action.

It is too well known to need a description.

FOLIA CAROBÆ (*Pacaranda Procera*).

Part used—The leaves.

The results of the employment of this drug are very favorable in all forms of syphilis, but remarkably so in all old syphilitic eruptions and for patients who have taken large quantities of mercury. It is employed in the treatment of scrofula, ulcers and all diseases of the blood. Dose of the fluid extract, from ten to forty drops, three times a day.

FOXGLOVE, Digitalis (*Digitalis Purpurea*).

Foxglove.

Part used—The leaves.

It is valuable in diseases of the heart and useful in dropsy of the chest, rheumatism, inflammatory fevers, spitting of blood, hooping-cough and in asthma. Dose, of the powdered leaves, one grain; or of the tincture, four to eight drops, three times a day, in chronic forms of disease. In acute diseases the frequency of the administration of the dose must depend on the circumstances of each case—such as the violence of the disease, the age, sex, tem-

perament and strength of the patient. It is a powerful poison, and should therefore be employed with the greatest caution.

Where found—In any drug-store and growing in gardens.

GAMBOGE (*Gambogia*).

This is a powerful cathartic, and in large doses it has proved fatal. It often vomits in large doses and sometimes in small doses. It is employed in constipation and in dropsy, combined with jalap and cream of tartar. It should be given with care, as it is, like aloes, very liable to produce piles. It enters, like aloes, into most patent pills, to make them certain to purge, and thus thousands of cases of piles are produced annually. The dose is from two to four grains.

Where Found—Only at drug-stores in this country.

GARDEN NIGHTSHADE (*Solanum Nigrum*).

Part used—The whole plant.

As a remedy in scarlet fever, this is equal to belladonna and as effectual in preventing it. It should be given in small doses, in order to insure its medical effects.

In consequence of its peculiar power over the nerve-centers, it is an appropriate remedy for epilepsy, spasms and cramps of the extremities.

In angina pectoris (one form of heart disease), it is said

it often acts admirably, and likewise in inflammation of the eyes.

In small doses it relieves headache of a nervous, congestive character. It is also a remedy for erysipelas of the face. And for inflammation of the stomach and bowels it will prove a valuable remedy.

The tincture is made from the fresh plant and berries, in alcohol, eight ounces to one pint; the dose, then, would vary from one to five drops; but from the fraction to one drop will be the ordinary dose.

Description and where found—This plant grows in gardens, around yards and near walls; has a low stem, much branched and spreading, with small white flowers, and black berries, when ripe, of a sweetish taste. During the summer we often see ripe berries, green berries and flowers on the same plant. It resembles, in some degree, the tomato-plant. It has often been mistaken for belladonna, from the fact that it bears a great resemblance to that plant; but it may be distinguished from it by the smaller stems and the purple color; the stems being smooth, not hairy, as those of the belladonna. The flowers of the belladonna are large, of a dark-brownish or purple color, pendant, bell-shaped and furrowed.

GARLIC (*Allium Sativum*).

Part used—The root or bulb.

The juice of garlic is a very excellent remedy in hoarseness, catarrh, hooping-coughs and worms, and also a very superior remedy for nervous coughs. If garlic-juice be stewed in an equal quantity of sweet oil

and strained, and a few drops of it, from a warm teaspoon, be inserted into the ear, it will be found to be one of the best remedies for deafness, as well as for earache.

In pneumonia or lung-fever, it is good applied over the chest and spine; in inflammation of the brain or brain-fever of children, it has been applied to the feet and stomach with effect; in retention of the urine, applied over the region of the bladder, it has been found efficacious; and in cases of severe croup, a poultice of garlic (or garlic and onions), prepared by first roasting them, will always give immediate relief, if not effect a cure.

A decoction of garlic, made with sweet milk, has cured stone in the bladder. When it is stewed in sweet oil and honey, it is considered, by many, an infallible remedy for coughs. An ordinary dose of the juice is about a half-teaspoonful; of the decoction, from one to three tablespoonsfuls.

Where found—In drug-stores, and growing wild, and in gardens.

GENTIAN (*Gentiana Lutea*).

Parts used—The root and berries.

It is an excellent restorative, especially for fever and ague; also in dyspepsia, scrofula, gout, diarrhea and worms. It should not be given in large doses, or in irritable conditions of the stomach, as it is liable to cause vomiting. Dose of the infusion, one tablespoonful; of the powdered extract, from five to ten grains. There are several species of this plant, all of which possess similar medical properties. The *five-flowered* gentian is a very

common plant, and very useful in liver-complaint, jaundice and headache. It is intensely bitter, and this property, as is supposed, gives it a medicinal value.

Description—This is a perennial plant, common to the mountainous parts of Europe. The root is not over an inch thick, reddish-yellow externally, grayish-yellow or reddish at the center and intensely bitter.

Where found—It is found in woods and pastures in almost all parts of this country, and at drug-stores generally.

GERANIUM, Crow-Foot, Cranes-Bill (*Geranium Maculatum*).



Geranium.

Part used—The root.

The decoction of this plant is a cure for bleeding piles and should be employed twice a day as an injection. The powder is valuable to check the bleeding of wounds, nose-bleed, etc. Those who have employed this remedy for summer-complaint in children regard it as very superior. A good way to prepare it is to boil the root in sweet milk, sweetened with white sugar.

It will be made still better if you add a little cinnamon and cloves. Dose, one-fourth to one-half teacupful five or six times a day; or, if not

prepared in this way, the decoction may be used in like doses. It is useful in diarrhea, cholera-infantum and ulceration of the throat.

Description—It is thick, rough, of a brown color and has a sourish taste, puckering the mouth like alum. The plant grows from twelve to fifteen inches high, smooth stalk, with a bunch of two or three ragged leaves at the top. The flowers are of a purple color and are large and appear in the Spring.

Where found—It grows on the banks of creeks and hillsides.

GINGER (*Zingiber Officinale*).

Part used—The root.

This is employed in cholera, cholera-morbus, diarrhea, dysentery, cramp-colic, flatulence, indigestion and to check vomiting. In bowel-complaints it is often combined with other astringents. An infusion is made by adding half an ounce of the powder to a pint of boiling water. Dose, two to three tablespoonfuls; of the tincture or fluid extract, one-fourth to half a teaspoonful as often as may be necessary.

GINSENG (*Panax Quinquifolium*).

Parts used—Leaves and roots.

A tea, of the root, will usually afford relief in colic. Dose, one-half teacupful every one to two hours. For

nervous dyspepsia, it is one of the best remedies in use. It should be taken in half-teacupful doses three times a day. Wonderful powers are attributed to it by the Chinese. They regard it as a panacea for almost "every ill human flesh is heir to." It is employed with good effect in treatment of palsy, asthma and dysentery, and also valuable in promoting digestion and increasing the appetite. Dose of the decoction, from a fourth to a half-teacupful three times a day; of the powdered root, one to two teaspoonfuls.

Description—The stem is from ten to eighteen inches high, divided at the top into three branches; flowers small and white, producing a large, red berry. The roots have a pleasant, camphorated smell, a sweetish, slightly bitter, aromatic taste, fleshy, yellowish-white and bulbous.

Where found—Usually in rich, shady soils.

GOLD-THREAD (*Coptis Trifolia*).



Gold-Thread.

Part used—The root.

It is an excellent remedy for sore mouth and canker of the mouth, and is valuable in feeble digestion and in debilitated conditions of the system generally. Dose of the tincture, one teaspoonful three or four times a day. It has been successfully employed in dyspepsia.

Description — Roots creeping, with many fibres, color bright yellow. Leaves

ever-green, on long, slender foot-stalks, growing three together. Flowers white and yellow, growing on a separate stem, rising to the same height with the leaves.

Where found—It grows in moist woodlands and swamps.

GOLDEN SEAL, Yellow Puccoon, Yellow Root,
(*Hydrastis Canadensis*).

Part used—The root.

For some forms of dyspepsia, the golden seal is one of the most certain remedies known. Dose of the decoction, one tablespoonful three times a day; of the tincture, one to two teaspoonfuls three times a day; of the powder, fifteen to twenty grains, or half-teaspoonful. A decoction, made of two ounces of golden seal and one ounce of geranium, in a pint of water, taken in doses of two tablespoonfuls four or five times a day, will cure chronic gonorrhea. It is extremely valuable as a wash in sore mouth and chronic sore eyes. A strong decoction of equal parts of golden seal and geranium is a valuable injection for chronic leucorrhea or whites. As a restorative, it is employed in cases of recovery from bilious and typhoid fevers.

Hydrastin—This is a concentrated preparation made from the golden seal, used for the same purposes as the root, and generally found in drug-stores.

Description—It is rough, wrinkled and knobby, half



Golden Seal.

as thick as the little finger, of a yellow color inside, and of a bitter taste. The stem is round, growing from fourteen to fifteen inches high, commonly bearing two rough leaves at the top, resembling the leaves of the sugar-maple, in the center of one of which appears the flower, followed by a fleshy and many-seeded berry. It grows in shady soils and on hill-sides, and is kept by all druggists.

GRAVEL-WEED, False Gromwell, Wild Job's Tears (*Onosmodium Hispidum*).

Parts used—Roots and seeds.

This plant is most celebrated as a remedy for the gravel. It was first introduced by Dr. A. Robinson of Indiana, as a solvent of the stone. Its medical properties had been discovered by the Indians in Tennessee, by roasting and eating the roots for food. Both the roots and seeds are employed for curing the stone. They are used as follows :

Take half a pound of the bruised roots and two tablespoonfuls of the pulverized seeds, steep the roots in three pints of boiling water until the strength is extracted, then pour the decoction on the seeds, and drink a tea-cupful of it once in two hours for twelve hours, or until it operates on the bowels as a cathartic, when the sediment or seeds must be taken. This finishes the process, which, it would seem, is relied upon to effect a cure.

Description—Height of stems, from two to three feet, several growing from the same root; leaves larger on the stems and smaller on the branches; flowers yellowish-white, producing whitish seeds, about the size of hemp-

seed; roots large, dark on the outside and yellowish within.

Where found—Usually on hill-sides and in open situations, and especially on rich limestone soil.

GRAPE-VINE (*Vitis Vinifera*).

The juice or sap of the vine is a very excellent remedy for curing sore and weak eyes, and also valuable for stone in the bladder. It is a celebrated remedy for the dropsy. For this purpose, the ashes of the bark and small limbs or twigs are to be employed; of these, give a heaping teaspoonful three times a day, in two or three tablespoonfuls of catawba or Madeira wine. The wild and cultivated grape-vines possess similar medicinal properties. In cutting or making an incision in the vine, in the spring or summer, the juice or sap exudes. This is to be used in the form of an eye-water for sore eyes.

GREEK VALERIAN, Abscess-Root, Sweat-Root, Blue-Bells (*Polemonium Reptans*).

Parts used—The root and tops.

This plant is very excellent for pleurisy and fevers. Also to cleanse the blood in case of boils, and for producing perspiration.

It is a very popular medicine in some localities for lung-difficulties. In speaking of it, Dr. Howard says,

“A valued correspondent at Zanesville, Ohio, assures

us that we will find this plant 'excellent for consumption, and all affections of the lungs and liver.' He also states that a lady who had a severe affection, attended by violent pain in the left side, was cured by taking a compound of this article with manroot (*Convolvulus panduratus*), after other means had failed. 'The person,' says our correspondent, 'who communicated this plant to me, received his knowledge from the Indians; and he informed me that he cured his mother of consumption with it. The tea made from it,' says he, 'may be drunk freely, though it will sometimes vomit when the stomach is overloaded with it; but this is rare. I believe it to be a valuable root, and that it may be combined with other articles to advantage.'

"From other persons we learn that it is not only highly valuable for consumption, but is also very useful in other chronic complaints, particularly scrofula, scrofulous and other ulcers, and for the bites of snakes. They call the article abscess-root.

"They state that consumptions have been repeatedly cured by it, and in some instances, when the disease was in its worse stage, and after other approved means had been perseveringly tried but failed.

"For use, they direct a small handful of the roots to three pints of boiling water, steeped down one-half. Dose, half a teacupful every four hours. In chronic complaints, after using a short time, it often produces a singular sensation on the surface of the body—a kind of prickling.

"For snake-bites, take the roots and tops, bruise them in a mortar and mix with new milk to the consistence of a poultice, and apply to the bitten part; or if this be impossible or inconvenient, as in the case of cattle and horses, wash the part with the milk, after the root has steeped awhile in it. The tea is also to be taken inter-

nally at the same time. Or if inconvenient to make a poultice as directed, chew the roots and apply them to the part, and drink the tea or eat some of the roots."

Description—Height of stalk one to two feet; flowers small, blue, and appear early in the spring; the roots small, numerous, fibrous, and of a dirty-white color.

GRINDELIA SQUARROSA, Gum-Weed, Tar-Weed.

This is an excellent and efficient remedy, in malarial diseases and enlarged spleen.

Dose of the fluid extract, fifteen to thirty drops.

This is a new remedy, from California, for chills and fever. It is said to surpass anything yet employed in chronic cases of this disease.

In reference to it, Prof. I. J. M. Goss, of Marietta, Ga., writes, * * * "It will be found the remedy in leucocythæmia;

a disease of the lymphatic system, generally, which is common after attacks of ague and summer-fever; and the controlling effects of the *grindelia squarrosa*, over the spleen and other lymphatic glands, render it *the* remedy in all old, chronic cases of ague. I have found nothing so prompt, to check relapsing chills, as this remedy.



Gum-Weed.

There is no remedy that acts more kindly upon the liver than *grindelia squarrosa* * * * ”

In irruptive diseases, such as scarlet-fever, measles, small-pox, it is a remedy of unsurpassed value and efficacy, and fills a place hitherto unoccupied by any known medicine. Its remedial powers are remarkable, and are applicable to the treatment of a large class of diseases.

Description—This plant is sometimes called gum-weed or tar-weed. It grows from two to three feet high; produces many stems from one common root, with a bunchy top; leaves about two inches in length, and of a bright-green color; stems of a whitish color, bearing many leaves; flowers of a chrome-yellow, and about the size of a quarter of a dollar; buds, “hooked,” resembling the burdock. This plant bears some resemblance to the wild sunflower; but one very distinguishing characteristic is, the *former* is gummy, while the *latter* is not.

GREAT LAUREL (*Rhododendron Maximum*).

This is a valuable remedy in coughs, consumption and influenza. Add twenty drops of the fluid extract to a tumblerful of water; of this give a teaspoonful every one or two hours.

GUACO LEAVES (*Mikania Guaco*).

This is a good remedy in chronic rheumatism, cholera, diarrhea, dysentery and cholera-infantum. Dose of the fluid extract, from one half to a teaspoonful every two or three hours.

GRINDELIA ROBUSTA, Tar-Weed.

Since this plant was first introduced it has earned for itself the reputation of being almost a specific in asthma.

Dose, from one-half to one teaspoonful of the fluid extract, repeated every three or four hours as required.

W. T. Cleland, M. D., of Ke-wanna, Ind., writing in reference to this remedy, says, "I cannot speak in too high praise in regard to *grindelia robusta* in asthma or in any affections of the air-passages, where fever is not too violent.

In fact, it is the best remedy I ever used, in common catarrh or chronic bronchitis."

Another physician who has used it observes, "This is the best known remedy for the asthma."

Description—This is another species of the tar-weed, and the same description applies to this species as to the *squarrosa*, with the following slight variations: The stem of the former is brown and has fewer leaves, which are somewhat narrower than those of the latter, while the flowers are of an orange-color.



Grindelia Robusta.

GROUND-IVY (*Glechoma Hederacea*).



Ground-Ivy.

Part used—The leaves.

The fresh juice, snuffed up the nostrils, is a valuable cure for headache. An infusion of the leaves will afford effectual relief in painters' colic. It should be taken in half-teacupful doses or more, three times a day. It is also said to be a preventive of this disease. It is very good in jaundice, asthma, diseases of the lungs and for cleansing the blood. Dose of the infu-

sion, half a teacupful three times a day.

Description and where found—It is a low, creeping herb, growing generally along fences, orchards and shady places, and sometimes in gardens. The flowers are of a bluish-purple color.

GROUND CENTAURY (*Polygala Nuttalli*).

Part used—The herb.

This plant has the reputation of being almost infallible as a remedy in fever and ague. It is useful as a tonic and alterative, and very effectual in boils and erysipelas. It is prepared for use by adding one drachm

of the plant to a gill each of alcohol and water. Of this, give a tablespoonful three times a day.

Description—The stem is eight to ten feet high; flowers, rose-purple; seeds, black. It is frequently found growing in bunches of fifteen to twenty stems, from one root, and on the root will be seen something resembling a nearly developed flower.

Where found—It is found growing in very poor soils.

GUM-MYRRH.

This is a powerful medicine for checking all tendency to mortification, and for relieving sponginess of the gums, gangrenous conditions and ulcers. Also in wounds and injuries, when there is a tendency to mortification, it is used as a wash or mixed in a poultice, and, at the same time, a small portion is to be taken internally. It is also valuable in putrid fevers and green sickness. Dose of the tincture, one to two teaspoonfuls, three times a day; of the powder, ten to twenty grains.

Description—Gum-myrrh is the concrete juice of a tree, growing in the East Indies. It is hard, brittle, and of a reddish-yellow color.

GUARANA (*Paullinia*).

This is an excellent remedy for sick headache and also for chronic rheumatism, and may be employed

advantageously in bowel-complaints and neuralgia. Dose of the fluid extract, from ten drops to a teaspoonful. In headache, the dose may be repeated every half-hour or hour, until the pain ceases, though one dose is often sufficient. Prof. Bundy, of the California Medical College, says, "When you have the headache, don't forget to take guarana." It is a favorite remedy with him, and he regards it as almost sure to relieve most forms of headache. Dose of the solid extract, from one to five grains; of the sugar-coated pills, from one to two, three times a day. This is a new remedy and to be had now at almost all drug-stores. The firm of Parke, Davis & Co., of Detroit, manufacture the fluid extract and other preparations of this plant.

GUM-GUAIAC (*Guaiaci Resina*).

It is useful in scrofula, diseases of the skin and venereal diseases, and in small doses it is good in the first stages of dysentery and in obstructed menstruation. It is also a celebrated rheumatic remedy, for which purpose it is often used in the form of bitters, made by adding one ounce of the gum to one quart of the best rye whisky. Of this, take one to two tablespoonfuls three times a day. Dose of the tincture, from one to three teaspoonfuls, two or three times a day; of the powdered resin, five to fifteen grains. This is also a valuable remedy for the effects of poison oak. In taking this medicine for any purpose, if irregularity of the bowels or sickness occur, its use must be discontinued. The ammoniated tincture of gum-guaiac will almost invaria-

bly relieve painful menstruation, which originates from taking cold. Dose, from thirty to sixty drops, every three hours, in simple syrup.

GUM-ARABIC (*Acacia Arabica*).

This is the concrete juice of a tree growing in Asia. It is very useful in catarrh of the bladder, coughs, hoarseness, sore throat, and in all irritations and inflammations of the mucous surfaces, bowels and urinary passages. It is especially serviceable in irritating and inflammatory diarrhea, dysentery, gonorrhea and strangury. Hemorrhage from small wounds, razor-cuts, etc., may be readily checked by applying equal parts of powdered gum-arabic and alum. Dissolve from four drachms to an ounce in a pint of water; it may be taken freely—a tablespoonful or more every hour. It can be rendered more palatable by adding a small quantity of loaf-sugar.

HAIR-CAP MOSS, Robin's Rye, Ground-Moss, Bear's Moss (*Polytrichum Juniperium*).

Part used—The plant.

It is very useful in gravel, dropsy, fevers and inflammations. The infusion or decoction may be used freely.

Prof. King says, "A strong infusion of this plant, taken in doses of four tablespoonfuls, every half-hour, has

removed from dropsical patients from twenty to forty pounds of water in the space of twenty-four hours."

Description and where found—Stem slender, of a reddish color, and from four to seven inches high; leaves lance-shaped and somewhat spreading. The fruit is a four-sided oblong capsule. It grows in high, dry places, along the margins of dry woods, mostly in poor, sandy soil.

HARDHACK (*Spiræa Tomentosa*).

Part used—The herb.

The green herb, boiled in milk, makes a very efficacious remedy for chronic diarrhea. An infusion, or tea of this plant, is reputed prompt in arresting cholera-infantum. It is deservedly a popular remedy in summer-complaint of children. The infusion may be drunk freely. Dose of the fluid extract, from three to fifteen drops.

Description—This is a beautiful, green shrub, common to the United States. Its leaves are of a dark-green color above, and white underneath.

HEMLOCK (*Pinus Canadensis*).

Parts used—The bark and the gum.

This tree produces a gum, called Canada-pitch or hemlock-gum, which makes a good strengthening plaster for weak back. The fluid extract makes a very valuable injec-

tion for chronic gonorrhea. The essence of hemlock, in doses of five to eight drops, has proved effectual in checking vomiting of cholera-morbus. A strong decoction of the bark is good in the whites, falling of the womb, and as an external application in gangrene. The oil of hemlock is often used externally in the treatment of croup, and to relieve rheumatic pains. A strong decoction, used as a wash, will cure itching piles. Use the fluid extract when it can be got. Prof. Bundy says, "This medicine has no equal for hemorrhages, whites, cuts, diarrhea and dysentery." Dose of the infusion, one tablespoonful, two or three times a day; of the fluid extract, fifteen to twenty drops. In uterine and venereal diseases, it is used by injection.

Where found—The bark and gum can always be found at drug-stores. The tree is a species of pine and grows in the northern part of the United States and Canada.

HIGH CRANBERRY (*Viburnum Opulus*).

Part used—The bark.

This is a very prompt and effectual remedy in relieving cramps, asthma and spasms of all kinds. It is said that, if it is used during the last two or three months of pregnancy, it will entirely prevent the convulsions which sometimes occur at that period and in parturition.

Dose, one tablespoonful, once a day.

It is employed in the treatment of hysterics. Dose of the extract, from one to five grains, three times a day. A decoction or infusion of the bark, in wine, may be used in doses of a tablespoonful, two or three times a day.

This is a shrub, growing in rich soils in the Northern States and Canada.

HOARHOUND (*Marrubium*).

Part used—The leaves.

Hoarhound is much used in colds, coughs, and is also valuable in asthma and jaundice. A cold infusion is a very useful tonic in dyspepsia. It is sometimes employed for the removal of worms, and for the cure of mercurial salivation. The infusion may be used freely.

Where found—Growing in all parts of the country.

HOLLYHOCK (*Alcea Rosea*).

Parts used—The leaves and roots.

This is a very fine remedy in all cases of inflammation, such as inflammation of the stomach, lungs, bowels, bladder, etc. It is employed with good effect in colds, coughs, leucorrhea and gonorrhea. It is harmless, and the tea may be drunk freely five or six times a day.

Where found—In gardens.

HOPS (*Humulus Lupulus*).

Hops are extremely useful to relieve the pain and inflammation of internal organs in the form of fomentations or poultices. Such pain may result from pleurisy, inflammation of the stomach and bowels, tumors, etc.

For wakefulness, a pillow of hops may be used; it will generally induce sleep.

The yellow powder, called lupulin, obtained by threshing the hops, is preferable for internal use. It is employed to prevent chordee, and in delirium tremens, to allay nervous irritation and to mitigate the pain attending gonorrhea. It is also employed to suppress venereal desires. Dose of the powder, five to ten grains; of the tincture, from one to three teaspoonfuls.

In making a fomentation, they can be boiled either alone in water and vinegar, or with other bitter herbs.

HORSE-RADISH (*Cochlearia Armoracia*).

Part used—The root.

A syrup made of grated horse-radish and honey or sugar and water, will cure ordinary cases of hoarseness. Dose, a teaspoonful every one or two hours.

Prof. King says, "A warm infusion of the fresh root in cider, drunk in sufficient quantities to produce perspiration and repeated every night, has cured dropsy in two or three weeks."

It has proved beneficial in rheumatism, neuralgia, paralysis, and in weak digestive organs. Hoarseness, from colds, may be removed by chewing a small piece of horse-radish, the size of the little finger.

HORSE-CHESTNUT (*Æsculus Hippocastanum*).

It has proven a good remedy for the piles when they are hard, sore and attended with itching and burning.

When they are attended with a sensation of fullness and a desire to strain, and there is looseness of the bowels, this remedy will usually prove effectual.

It seems to act directly on the veins of the rectum. Dose, from three to five drops of the tincture, three times a day.

Description and where found—The horse-chestnut is a lofty forest-tree, covered with rough, brown bark. The wood is white and soon decays. Its leaves are large and on long foot-stalks, and composed of seven leaflets, arising from a common center, the middle one being the largest. The fruit is prickly, roundish, three-celled, and usually containing two seeds.

HORSEMINT (*Monarda Punctata*).

Parts used—The leaves and flowers.

A strong infusion is very useful in disease of the kidneys, suppressed urine and to allay vomiting, and may be drunk freely. The volatile oil is employed in neuralgia, rheumatism, paralysis and cholera-infantum. The essence is a very elegant preparation to remove nausea and vomiting.

Description—Height, from two to three feet.

Where found—It grows in all parts of the country, in dry soils, woods, and in the prairies of the West.

HOUND'S TONGUE (*Cynoglossum*).

Part used—The leaves.

The fresh leaves bruised, or the tincture, will remove

the discoloration and swelling of parts caused by bruises or blows.

In case of excoriation of the feet from long marches, a poultice of the leaves will give speedy relief. It is likewise valuable in scrofulous tumors, giving complete relief.

A tea is good in catarrh, coughs, dysentery and spitting of blood.

Where found—In drug-stores, and growing wild in almost all sections of country. The leaves have a very unpleasant odor, and a bitter taste.

HYDRANGEA, Seven Barks (*Hydrangea Arborescens*).

Part used—The root.

It is an admirable remedy for the gravel, and relieves that excruciating pain experienced when the gravelly formations pass through the ureters from the kidneys to the bladder. A syrup or decoction of the root may be taken in teaspoonful doses several times a day, but not to cause dizziness, or other unpleasant symptoms. Dose of the decoction, one teaspoonful several times a day.

Where found—This shrub is common to almost all parts of the United States.

HYOSCIAMUS, Black Henbane (*Hyosciamus Niger*).

Part used—The leaves.

It is used in rheumatism, neuralgia, gout, asthma, nervous and spasmodic affections and chronic coughs, to

allay nervous excitability, to relieve pain and to promote sleep. It is frequently used in place of opium, as it does not produce constipation. It should be used with caution, however, for in large doses it is a narcotic poison. Dose of the tincture, from ten to fifteen drops; of the powdered leaves, five to ten grains; of the alcoholic extract, from a half to two grains. The extract is the form in which it is generally used.

Where found—In drug-stores, and growing wild in most parts of the United States.

HYSSOP (*Hyssopus Officinalis*).

Parts used—Leaves and stems.

It is useful in sore throat and quinsy, in the form of a warm gargle. Its value is very much improved when combined with alum and sage. It is good, taken internally, for colds and affections of the chest. The fresh leaves are valuable, when bruised and applied to wounds, to relieve the pain, and also for removing black spots caused by bruises.

Where found—Growing in gardens.

ICELAND-MOSS (*Lichen Islandicus*).

This plant has been used with good success in dyspepsia and as a nutriment and tonic in low stages of consumption. As a demulcent, it is used in coughs, bronchitis and affections of the lungs. In these difficul-

ties its value may be increased by adding an equal proportion of liverwort. It is prepared by adding a handful of the moss to a pint of boiling water; after standing two or three hours, strain, sweeten with honey and drink freely. It is only used when cooked, and forms what is termed *blanc mange*. It is good for food.

Where found—It is a product of foreign countries and is found in drug and grocery-stores.

ICE-PLANT, Pipe-Plant (*Monotropa Uniflora*).

Part used—The whole plant.

The root of this plant is regarded as almost an infallible remedy for fits in children, and has been used with great success in St. Vitus's dance. The juice, diluted in cold water, is useful in sore eyes. It is very valuable in nervous restlessness, pains and irritability. It is used instead of opium, and without any of the objectionable influences of that drug. The juice of the plant is an excellent remedy in gonorrhea and ulceration of the bladder, used as an injection. Dose of the powdered root, half to a teaspoonful, two or three times a day.

Description—Height, from four to eight inches. The whole plant, including the stem and flowers, is of a clear white color. It is very juicy, and when rubbed a little, it will melt almost like ice. The flowers have some resemblance to a pipe; hence its name, pipe-plant.

INDIAN FEVER-ROOT (*Helianthus Occidentalis*).

Part used—The root.

It is a celebrated remedy among the Indians for the cure of fevers, and employed by them as a great sweating agent. The decoction should be drunk freely.

Description—Height of stem from two to three feet, sending up several stems from the same root; flower-heads yellow, one to two inches in diameter; root dark and of a strong, rich taste.

INDIAN ARROW, Wahoo, Bitter Ash, Spindle-Tree, Burning Bush (*Euonymus Atropurpureus*).

Part used—The root.



Indian Arrow.

It is used in diseases of the stomach, bowels and liver, for indigestion, colic, dyspepsia and bilious fever. The decoction has been used with success in liver-complaint, dropsy, constipation and lung-difficulties. Dose of the tincture, from two to three tablespoonfuls of the powder (ten to twenty grains). When this is combined with equal parts of wafer-ash (*ptelia trifoliata*) it can be relied on to cure old, long-standing cases of chills, which have resisted quinine. It may

not be quite as speedy in controlling this disease as is

this latter medicine in some cases, but the disease is less liable to return when broken with wahoo than with quinine.

Description—This is a shrub, growing from ten to fifteen feet high, bark smooth, dark-gray, interspersed with large, white, irregular-shaped spots; leaves, deep-green on the upper and light on the under side. Flowers a kind of cluster, very small, dark, reddish-brown inside, inclining to green outside, with rough husk, which opens in the fall, exhibiting the beautifully bright, fiery-red fruit or berries.

Where found—It grows in various parts of the country, especially on bottom lands and on the borders of streams.

INDIAN HEMP, Dogs' Bane, Black Silkweed (*Apocynum Cannabinum*).

Part used—The root.

The decoction of this plant is an admirable remedy for dropsy, and numerous cases have been cured with it. It should be taken in tablespoonful-doses, three times a day; of the extract, four to five grains.

It is an infallible remedy for the cure of thread or pin-worm. For this purpose, take twenty drops of the tincture three times a day, for three successive days; then use an injection of cold water and the worms will be dislodged.

Description—Height about two feet. It is one of the several species called *Indian hemp*, and resembles very much the *bitter-root* (*Apocynum Androsæmifolium*).

“They both grow in the same kinds of soil, often together, and both have a tough bark like hemp, and pods somewhat alike, but may be distinguished by

their leaves and flowers. The leaves of this species are oblong and sharp, or pointed at both ends, and of a whitish, downy appearance on the lower side; while those of the bitter-root are pointed only at the outer end, and quite round or blunt at the end next the stalk—are not so long as the other, and are dark, smooth, green on both sides. In this species the flowers are greenish-yellow, slightly pink or purple inside, while those of the bitter root are white, tinged with red.”—[Gunn.

Where found—In meadows and low, moist lands.

INDIAN CUP, Ragged-Cup, Wild Sun-Flower (*Silphium Perfoliatum*).

Part used—The root.

This will remove ague-cake. The Indians use it for curing fevers and attribute to it a very remarkable virtue; namely, that of “making an old man young.” It is employed effectively in bruises and ulcers, used very freely in the form of a tea. It requires long steeping in order to extract its virtue. It is esteemed a good remedy for liver-complaint, used in the form of a decoction, taken in wineglassful doses, three times a day.

The fluid extract of the Indian cup alternated with bromide of ammonium has effectually cured cases of asthma of long standing. Dose of either the fluid extract or essential tincture, thirty to sixty drops. The latter may be made from the fresh bark of the root; four ounces to one-half pint of alcohol (76°). It should always be made fresh, for it soon loses its virtue.

Description—It has a large, square stalk, from four

to six feet high; leaves from nine to twelve inches long and four to five wide, growing in such a shape as to form a cup; flowers yellow, resembling a sunflower; roots large and rough, having a strong resinous and bitter taste.

INDIAN TURNIP, Dragon-Root, Wake Robin
(*Arum Triphyllum*).

Part used—The root.

The fresh root has been used in colic, asthma, hooping-cough, chronic catarrh, chronic rheumatism, bronchitis and in low stage of typhus fever. Externally, it has been used in scrofulous tumors, scald-head, and other diseases of the skin. Dose of the grated root in syrup or mucilage, eight to ten grains, three times a day. For coughs and colds tincture the root in vinegar, and give from one to two teaspoonfuls three times a day.

It will often afford relief. For scrofulous swellings the pulverized root is to be mixed with honey or syrup and applied in the form of a poultice.

Description—The root of this plant is round, flattened, with many white fibres; externally it is dark and wrinkled; internally white. Leaves, three in number, growing at the top of the stalk, and a single blossom



Indian Turnip.

of the same color as the leaves, producing a roundish cluster of red berries.

Where found—In drug-stores and almost all kinds of lands and soils.

IPECAC, Ipecacuanha (*Cephalis Ipecacuanha*).

Part used—The root.

This is one of the mildest and most certain vegetable emetics. In small doses the tincture is a soothing tonic, and is often required in nausea and vomiting of many diseases. It is found very useful in dysentery, in one-half to one-grain doses. As an emetic, the dose is fifteen to thirty grains. It is useful in fevers, hemorrhages, inflammatory diseases and dyspepsia. The wine or tincture of ipecac is a good remedy in coughs and an important ingredient in many of the cough-mixtures. Dose, one-fourth to one-half a grain once in four hours.

Where found—Only in drug-stores, in this country.

IRON-WEED (*Vernonia Fasciculata*).

Parts used—The root and leaves.

This plant is particularly useful in female complaints. It is also said to be a certain remedy for the chills and intermittent and bilious fevers. It is said to be highly valuable in scrofula, diseases of the skin and in constitu-

tional syphilis. Dose of the decoction, half a wineglassful or more; of the tincture, two or three teaspoonfuls, several times a day. A decoction of the leaves is esteemed a good gargle in sore throat. It is employed by some physicians in the treatment of dyspepsia.

Description—Height, from four to eight feet, stalk straight and of a purple color; leaves coarse and flowers of a bright-purple color.

Where found—In rich timber and prairie lands and especially along water courses.

IRON-WOOD (*Astrya Virginica*).

Part used—Heart of the tree or the central part of the wood. It has been used very effectively in neuralgia, dyspepsia and scrofula, and by some it is regarded as an infallible remedy in chills and fever.

The wood is cut into small pieces or chips and a tea made of them, a dose of which is four to six tablespoonfuls three times a day.

Description—This is a small tree, growing from ten to forty feet high, the wood of which is very hard. The bark of the tree is fine and of a dark-gray color.

Where found—Usually on hills and uplands and along streams.

JALAP (*Ipomea Jalapa*).

Part used—The root.

It is a powerful and certain cathartic, especially em-

ployed when copious evacuations are required. It is somewhat drastic, producing large, watery discharges, with more or less griping, with nausea and vomiting. It is often used in dropsy with cream of tartar added. Dose of the tincture, from one to two teaspoonfuls; of the powder, ten to twenty grains.

Where found—In drug-stores and obtained from a tree growing wild in Mexico.

JABORANDI (*Pilocarpus Pennatifolius*).



Jaborandi.

This is a sovereign remedy for breaking fevers when administered in the first stage. It will cure a cold when employed at the beginning of the difficulty. It has been employed with good success in pneumonia, acute rheumatism and chronic Bright's disease. Wherever a diaphoretic or sweating medicine is needed it is perhaps unequalled. It is, therefore, very excellent in the treatment of dropsy, bronchitis and diabetes-mellitus. Dose

of the fluid extract, from fifteen drops to one teaspoonful, until thorough sweating is produced, then in one-fourth to one-half the quantity. In cases when a profuse perspiration is required it may be given in teaspoonful

doses. When the solid extract is employed the dose is from three to fifteen grains. This is a Brazilian plant, but its different preparations are to be found in the drug-stores in this country.

JAMAICA DOGWOOD (*Piscidia Erythrina*).

Part used—

Bark of the root.

This is a new remedy and is proving a superior substitute for opium. Commencing dose—thirty drops of the fluid extract.

Its action seems to be on the nerve-centers;

it causes sleep without producing the cerebral hyperæmia which succeeds opium and the active principles extracted therefrom. The sleep is tranquil and refreshing; it soothes bronchial cough and moderates the paroxysm in asthma and nervous coughs. It has also been pronounced an excellent remedy for chronic hepatitis and obstructions of the liver.

Dr. William Hamilton, of Plymouth, England, in a communication to the *Pharmaceutical Journal*, speaks of this plant as a powerful narcotic, capable of produ-



Jamaica Dogwood.

cing sleep and relieving pain in an extraordinary manner. He had noticed, when resident in the West Indies, the use of the bark of the root in the taking of fish. He was induced to try it as an anodyne in toothache, and found a saturated tincture exceedingly efficacious, not only affording relief when taken internally, but uniformly curing the pain when introduced upon a dossil of cotton into the carious tooth. The bark of the root, to be effectual, should be gathered during the period of inflorescence in April. It yields its virtues to alcohol but not to water. The formula employed by him in preparing the tincture was to macerate an ounce of the bark in coarse powder in four fluid ounces of rectified spirit for twenty-four hours and then to filter. The dose is a fluid drachm. He first tried it on himself when laboring under severe toothache, taking the quantity mentioned in cold water on going to bed. He first felt a violent sensation of heat internally, which gradually extended to the surface and was followed by profuse perspiration, with profound sleep for twelve hours. On awaking he was quite free from pain and without the unpleasant sensations which follow a dose of opium.

When employed for taking fish it is thrown, coarsely powdered, into the deep, still part of some stream, when the water soon acquires a reddish shade and in a few minutes the fish begin to rise to the surface, where they float.

JUDAS-TREE (*Cercis Canadensis*).

This is useful in the treatment of diarrhea and dysentery when it has become chronic, as it can be adminis-

tered where there is an irritable condition of the stomach without increasing the trouble. It also makes an excellent injection for leucorrhea and gleet, where there is a debilitated condition of the mucous membranes.

Dose of the fluid extract, from fifteen to twenty five drops, two or three times a day.

JUNIPER BERRIES (*Juniperus Communis*).

Juniper berries are valuable in dropsy, as they act directly on the kidneys and bladder. They are also, sometimes, employed in skin-diseases and in scurvy, and frequently given in combination with other medicines for various other complaints. An oil is obtained from the berries, which has been used in catarrh of the bladder, in doses of from two to five drops, in spirits or mucilage.

Where found—In drug-stores and growing wild.

KAMEELA (*Rottlera Tinctoria*.)

This is a great *tape-worm* remedy, and is excellent for the purpose. Dose, from two to four teaspoonfuls of the fluid extract, the patient having previously fasted twenty-four hours. This should then be followed by two tablespoonfuls of castor-oil. It is a *new remedy and a good one*.

KAVA-KAVA (*Piper Methysticum*).

The fluid extract of this plant will cure gonorrhea, gleet and leucorrhea, and all excessive mucous discharges. It is efficiently employed in inflammation of the bladder and rheumatism. Dose, from thirty to sixty drops, three times a day, in a glassful of water.

It is a new remedy, and was brought from the Sandwich Islands and first introduced by Parke, Davis & Co., of Detroit, who manufacture it. In reference to its use, Prof. I. J. M. Goss says, "I used the extract of kava-kava in one case of gonorrhea, and I think it the most positive remedy that I have ever used in that disease." Another, J. A. Gore, M. D., says, "* * * I have recently tried the fluid extract of kava-kava in a very severe case of gonorrhea, and it acted like a charm, relieving the patient in three days."

KINO (*Pterocarpus Marsupium*).

It is useful in dysentery and diarrhea, and in many cases in which a pure astringent is needed. A decoction is sometimes employed as a gargle in sore throat.

It is most frequently used in the form of a tincture, the dose of which, is from one-half to a teaspoonful; of the powder, three to five grains.

Description and where found—It is obtained from a foreign tree, and is a dark-red, brittle gum. It is found only in drug-stores, in this country.

KOOSO (*Brayera Anthelmintica*).

This plant is indigenous to Abyssinia, and has long been esteemed by the natives as a vermifuge of great value. Careful experiments have proved its extraordinary efficacy in the destruction and expulsion of the tape-worm. Dose of the fluid extract, from two to six teaspoonfuls; the patient having previously fasted twenty-four hours. The medicine should be followed with a dose of castor-oil.

LADY'S SLIPPER, American Valerian
(*Cypripedium Pubescens*).

Part used—The root.

This plant should be used in the form of the fluid extract, in doses of fifteen to twenty-five drops, or the tincture made by adding eight ounces to one pint of alcohol (76°). The dose is one-half to one teaspoonful.

This medicine is an excellent nervine, and acts as a tonic to the exhausted nervous system. Hence it is adapted to cases of nervous irritability and sleepless-



Lady's Slipper.

ness, and gives rest and refreshing sleep. In the restlessness and wakefulness occurring in the latter stages of typhoid fever, it is one of our best remedies. It may be used alone or combined with skull-cap, in the various nervous affections, such as hysterics, headache, St. Vitus's Dance, or in other diseases. Whenever a mild and safe nervine is needed, lady's-slipper root is very generally used in the form of infusion, made by steeping about one ounce of the root in a pint of boiling water. Dose, from a half to a teacupful, every hour or two, or oftener, according to symptoms.

Description and where found—It rises to the height of one or two feet; leaves three to four inches long and two to three wide, and attached by a sort of sheath around the stalk. Flowers large, showy, and somewhat in the shape of a moccasin, either pale-yellow or white, with red or purple spots. Roots bunchy, fibrous, crooked, and about as thick as a wheat-straw.

LEEK, House-Leek (*Sempervivum Tectorum*).

Parts used—The root and leaves.

The leaves, bruised and applied twice a day, are reputed to effectually remove warts and ringworms, and also to cure shingles. The fresh leaves, when bruised, are very useful and cooling when applied to the parts stung by insects, likewise for erysipelas, ulcers, and inflammation.

This is a perennial plant, and generally well known.

LOBELIA, Indian Tobacco (*Lobelia Inflata*).

Parts used—Leaves and stems.

For an antidote to poisons of all kinds, whether animal or vegetable, lobelia is a good remedy. It is regarded by some practitioners as efficacious in hydrophobia, in which well attested cases have been recorded as cured with it. Bites and stings of insects, spasms of the limbs and severe pains, may be readily relieved by an application of a poultice of lobelia and weak lye. An external application of the tincture is very effectual for relieving sprains, bruises and for the poison from poison ivy or poison dogwood, and likewise often effectual in rheumatic pains. The ethereal tincture of lobelia, which can be purchased at any drug-store, will relieve almost instantly the violent paroxysms of asthma. Some physicians regard it as a good remedy for the bite of snakes. For an emetic, two teaspoonfuls of the powder are to be added to half a pint of hot water (but not boiling). After standing a few minutes it is ready for use. It may be given in half-teacupful doses every eight or ten minutes, along with pennyroyal balm, composition or some other warm herb-tea; and it is often well to drink freely of the tea of some one of these herbs before commencing the use of lobelia. When the tincture is used for an emetic, the dose is from one to two tablespoonfuls, repeated as before directed. It can be sweetened and made



Lobelia.

quite palatable. The lobelia should be continued until the patient has vomited two or three times. In sudden attacks of croup it is an admirable remedy. Dose for a child is one teaspoonful, given with some of the tea and repeated as before directed until thorough vomiting is obtained. It can be given in molasses or honey. The throat and chest should be bathed with it at the same time. Ten or fifteen drops will produce sickness in some persons. In asthma, give of the tincture a teaspoonful and repeat every half-hour during the paroxysms. It may produce sickness and vomiting or it may not; if it does, it is perhaps all the better for it.

In reference to its power of controlling asthma, Dr. Cutler, a distinguished physician, makes the following remarks :

“It has been my misfortune to be an asthmatic for about ten years. I have tried a great variety of remedies, with but little benefit. Last summer I had the severest attack I ever experienced, for eight weeks. The tincture of lobelia gave me immediate relief, and I have been entirely free from the complaint since that time. My breathing at one time became so difficult I thought I should suffocate. I took a tablespoonful of the spirit-tincture, made of the fresh plant; in three or four minutes my breathing was as free as it ever was, but I felt no sickness at the stomach. In ten minutes I took another spoonful, which occasioned sickness. After ten minutes I took the third, which produced sensible effects on the coats of the stomach and very little vomiting, with a kind of prickly sensation through the whole system.”

Description and where found—It grows one or two feet high; the stem is hairy; the leaves are tapering, hairy above and below, bordered with small, irregular teeth; the flowers are palish-blue, thinly scattered along

the branches and upper part of the stem, and continue to bloom from July till late in autumn. The blossoms are followed by small pods or bole-vessels—something like the shape of an egg—which contain a large quantity of very small black seeds; when you break the plant a milky juice comes out. This plant grows throughout all parts of our country.

The Oil of Lobelia is valuable in catarrh. In the commencement of this disease a few drops, added to a teacupful of ginger-tea and taken until perspiration results, will generally relieve the attack in a few hours.

LIVERWORT, Tree-Foil, Silver-Leaf
(*Hepatica Triloba*).

Part used—The whole plant.

This plant is recommended in lung-affections, coughs, bleeding of the lungs, liver-complaint, and in the early stages of consumption. It is an innocent herb, and may be taken freely in infusion or syrup.

Description and where found—The plant is small, rising only six to ten inches high; having a sort of three-lobed leaf on each stem, found in timber lands, usually growing on the south side of hills. The blossoms, which appear early in the spring, are of a purplish-white color.

LIME (*Calx*).

For dysentery and chronic diarrhea, lime-water is a very efficient remedy, and has performed cures when all

else had failed. It is prepared by putting an ounce of unslaked lime in a quart of water. After standing two or three hours, pour off the clear liquor, as it may be wanted for use. Dose, from two to four tablespoonfuls, three times a day. If the lime-water is added to a wine-glassful of sweet milk, it is far more pleasant to the taste. Lime is a very convenient article to produce perspiration, when the patient is unable to be moved, or where it is desirable he should not be disturbed. Used in the following manner: Take half a dozen pieces of lime, each about the size of an egg, and wrap a moistened cloth around them; place them, thus prepared, on each side of the patient and by both thighs, when free perspiration will be rapidly produced. Lime-water is a valuable application for burns, and its virtue is increased when mixed with linseed-oil.

LION'S FOOT, White Lettuce, Rattlesnake Root (*Nabalus Albus*).

Parts used—Roots, leaves and juice.

This is a new remedy, but from the limited use it is satisfactorily proven to be a good remedy in dysentery and summer-diarrhea. It has been used with success also in leucorrhea. It has acquired some reputation in the bites of serpents, for which purpose it is applied locally as a poultice, while the tincture is given internally.

A saturated tincture of the root and plant may be made by adding four ounces to a half pint of alcohol. The dose is from two to ten drops, according to the

urgency of the symptoms. As a remedy for dysentery, from four to five drops may be given every two hours; for diarrhea, one to two drops, every four hours.

Myricin is the active principle of this plant, which can be procured in the drug-stores. In gleet, one or two grains of this medicine, given every three or four hours, and one grain dissolved in two tablespoonfuls of rose or rain-water and injected every four hours, will speedily relieve the disease. In leucorrhea, five or six grains, dissolved in a gill of warm water, may be used as an injection, with happy effect. The usual dose of this medicine is from one to two grains, three times a day.

Description and where found—This is a perennial plant, has a smooth stem, stout, of a purple color; height, two to four feet. The leaves are mostly lance-shaped and irregularly toothed. It grows in moist woods throughout the United States.

LEMON (*Citrus Limonum*).

Lemon makes a very useful and grateful drink in all fevers and inflammatory diseases. One tablespoonful of lemon-juice taken three times a day is a certain cure for scurvy, and is also a preventive of it. Lemon-syrup or citric acid may be used in its stead when the fresh lemon cannot be procured.

A tablespoonful of the juice of roasted lemons, sweetened to the taste, taken every two or three hours, is an admirable remedy for coughs.

Diphtheria has often been cured with lemon-juice. The throat should be gargled with it every hour or two,

and at the same time swallow a teaspoonful of it. Cases apparently in the last stages of the disease were saved by this remedy.

The juice of two or three lemons, added to a gill of brandy and used as an external application, has cured erysipelas when all other means had failed. And it is said that many cases of asthma have been permanently relieved by the patients' eating two or three lemons a day.

The juice of half a dozen lemons, used in an attack of biliousness, is worth more for this purpose ordinarily than all the pills you can carry and more than all you want to swallow.

The application of equal parts of lemon-juice and glycerine will ordinarily remove tan and freckles from the face and hands.

It will relieve some forms of headache and also acidity of the stomach, when taken in small quantities and sufficiently diluted.

One draught of it is usually all that is required to remove the difficulty. It is also a grateful and refreshing drink for patients convalescing from various diseases.

Citric acid, which is made from the juice of lemons or limes, is useful for the same purpose.

LAUREL, Big-Ivy, Calico Bush (*Kalmia Latifolia*).

Part used—The leaves.

They are employed in dysentery, hemorrhages and inflammatory diseases, and said to be a valuable and efficient remedy in syphilis. Dose of the decoction, from one to two tablespoonfuls three times a day; in acute disease every two or three hours.

This is a vegetable narcotic and in overdoses produces headache, loss of sight, general weakness, cold extremities, etc., and must therefore be used with caution. When any of these dangerous symptoms appear the dose should be lessened or discontinued. Dose of the tincture is ten to twenty drops three times a day, beginning with ten drops and increasing one or two drops each day until twenty are reached, carefully watching the symptoms.

The shrub is often mistaken for the *sheep-laurel* (*kalmia angustifolia*).

Description—This is a shrub growing on rocky hills, mountain sides and in damp soils, rising from four to ten feet and often forming dense thickets, and bearing red or rose-colored flowers.



Laurel.

MAIDEN HAIR.

Part used—The leaves.

This is a good remedy in asthma, and also in erysipelas, colds, coughs, hoarseness, chronic catarrh, pleurisy and jaundice. It is a valuable cooling drink in fevers. The decoction may be used freely, as well as the syrup.

Description and where found—This is a perennial fern, found mostly in shady soils throughout the United States, growing from twelve to fifteen inches high, with a smooth, slender, black stalk.

MALE FERN (*Aspidium Filix Mas*).

Part used—The root.

This is a celebrated remedy for expelling the tapeworm. The oil of this plant, which may be obtained at any drug-store, is to be taken in doses of ten or fifteen drops, twice a day, followed by an active cathartic. Dose of the powder, two teaspoonfuls. If the infusion is used, one pint is to be taken, followed in a few hours by a cathartic.

This plant is also employed in the itch. The infusion is to be used both internally and externally, followed by applications of soap and water.

Description—This plant has no stalks, but a number of large, feather-like leaves, ascending from the root, from one to two feet high.

Where found—Growing both on timber and open lands.

MANNA.

It is used mostly for delicate ladies and children, and in cases where there is a tendency to piles.

It is remarkably agreeable and pleasant to the taste, and children usually relish it.

Dose, as a cathartic, one to two ounces, for an adult; and for children, from a drachm, to half an ounce.

Manna is the concrete juice, or candied gum, obtained from small trees growing in Sicily and Italy.

The flake-manna is the best variety, and may be dissolved in warm milk or water before taking. It is a far better remedy for little children than castor-oil, which is ruining the digestion of thousands.

MAGNOLIA TREE (*Magnolia Grandiflora*).

Part used—Bark of the root.

It is useful in chills and fever. It is a good restorative tonic, used in dyspepsia and for convalescence from fevers, especially miasmatic fevers.

It is employed in the form of a decoction, or bitters, taken in doses of two or three tablespoonfuls, three times a day.

Description—It is an ever-green, cultivated as an ornamental tree in the southern portions of the United States and in warm climates. It has beautiful white flowers, possessing a delicious odor.

MANGO (*Mangifera Indica*).

Part used—The leaves.

It is employed in dysentery, diarrhea, nasal catarrh, hemorrhage of the womb and leucorrhea. In hemorrhage from the womb, it is an excellent remedy, and much dependence can be placed upon it. Dose of the fluid extract, from ten drops to a teaspoonful.

MARSHMALLOW (*Althæa*).

Marshmallow.

Parts used—The root and leaves.

It is employed with good results in the treatment of acute gonorrhea, and all affections of the mucous membrane of the lungs and bowels, inflammation of the kidneys and bladder, retention of urine and strangury. The infusion should be drunk freely. Its effects are improved when equal parts of spearmint are added.

It is useful for the prevention of gangrene, when used in the form of a poultice made of the powdered root and

leaves, and is also excellent for bruises and inflammatory swellings.

Description and where found—Is cultivated in gardens and grows wild in many parts of the United States, generally about wet, marshy land; from three to six feet high; light, pink-colored flowers, followed by little capsules or buttons, each containing a single seed.

MARIGOLD (*Calendula Officinalis*).

Parts used—The leaves and flowers.

The tincture of this plant is good, applied to old ulcers and sores, to cause them to heal. It is used in surgical operations, and applied to fresh bruises and contused wounds. It is generally diluted with water; to a tumbler of water add a tablespoonful of the tincture, and apply by means of muslin saturated with it.

Description and where found—It bears beautiful yellow flowers and is cultivated in gardens as an ornamental plant.

MARSH-ROSEMARY, Sea-Lavender (*Statice Caroliniana*).

Part used—The root.

The decoction of this herb is used as an injection, three

times a day, for falling of the womb, gonorrhea, gleet and leucorrhea.

A gargle of the same is good for sore throat, and as a wash for old ulcers.

The decoction, taken in one or two-tablespoonful doses every two hours, generally checks bowel-disease in children.

Combine the infusion of this herb with equal parts of the infusion of black cohosh and golden seal, and you have one of the best injections for falling of the womb.

Description and where found—This plant grows in salt-marshes along the sea-coast. It has a large and somewhat fleshy root; stalk one to two feet high, and flowers of a bluish-purple color, which appear late in the Summer.

MAY APPLE, Mandrake, (*Podophyllum Peltatum*).



May Apple.

Part used—The root.

This plant is most commonly known as mandrake,

and is, perhaps, more highly esteemed as a purgative medicine and a remedy for acting on the liver, than for other purposes. In chronic affections of the liver it, perhaps, has no superior for arousing this organ to a healthy action, and finally effecting a cure in torpid conditions of this organ. For a cathartic, give of the powdered root fifteen to twenty grains; of the tincture, twenty to fifty drops. When it is not designed to act as a cathartic but to produce an alterative effect, give five to ten drops of the tincture, and one to three grains of the powder twice a day.

Dr. Lobstein says, he never knew its employment to fail of procuring immediate relief in cases of incontinence of urine. Used in the form of a powder and sprinkled on the affected parts, it will destroy proud flesh without injury to the sound parts. And applied likewise to all ill-conditioned ulcers, it disposes them to heal very rapidly. With some persons it is an effective remedy for constipation, and many ladies regard it as one of the foremost remedies in suppressed and painful menstruation. Podophyllin is the concentrated principle of the May-apple, and is very extensively used in place of the crude article, but generally in combination with other medicines. This medicine will expel intestinal worms. In cases of determination (excessive flow) of blood to the brain, this article is given in cathartic doses, is prompt, and will soon restore the equilibrium of the circulation. It should never be given without being mixed, one grain to ten, with sugar of milk (lactine), as it is so powerful that it has an irritating effect on the mucous coat of the alimentary canal. Thus prepared, the usual dose is from one to four grains, two or three times a day; as an alterative, give from one-half to one grain. In old cases of mercurial poisoning it acts promptly; as a tonic and alterative, the tincture of May-apple is generally pre-

ferred to podophyllin, in doses of ten to fifteen drops. Prof. Goss says, "in cases of dyspepsia, attended with constipation, we have no better remedy than this to combine with tonics."

Where found—In moist timber-lands, and all forms of it may be found at any drug-store.

MILK-WEED, Common Silk-weed (*Asclepias Syriaca*).

When this plant is cut, or an incision made in it, a milky juice exudes, which is reputed a cure for warts.

The root acts on the kidneys, and is a valuable remedy in dropsy, retention of urine, dyspepsia, scrofula and rheumatism. It is given generally in decoction. Bruise and boil four ounces of the root in three quarts of water down to one quart or less, and take half a teacupful, three times a day. Dose of the saturated tincture, from one to two teaspoonfuls, three times a day.

Description—Height, two to four feet, with large, smooth stalks, and large, oblong leaves, two opposite each other on the stalk; having large, whitish-purple flowers; with large, oblong pods filled with a sort of fine cotton and seeds. The root is large, white, and usually runs deep into the ground.

MISTLETOE (*Phoradendron Flavescens*).

Dr. Long recommends this as a parturifacient, and claims for it many advantages over ergot, particularly,

that it acts more promptly and surely, and that it is equally effective in delayed menstruation. Dose, from half to a teaspoonful, every twenty or thirty minutes, until the desired effect is produced.

MOTHERWORT (*Leonurus Cardiaca*).

Parts used—The leaves and the tops.

The extract of this plant is valuable for nervous complaints of females, such as neuralgia, spasms, nervous fevers and wakefulness. The warm infusion of the tops and leaves is beneficial in suppressed menstruation from colds and suppressed lochial discharge. Externally, it is used as a fomentation to the bowels in menstrual difficulties. Dose of the decoction, from one to two wine-glassfuls, every two or three hours; of the extract, three to five grains.

Description—Height, from two to three feet, bearing some resemblance to the hoarhound, but has much longer and darker-green leaves.

Where found—It is found growing in most of the States, usually along road-sides and about old buildings, generally in bunches.

MULLEIN (*Verbascum Nigrum*).

Part used—The leaves.

A decoction of the leaves is used in catarrh, coughs, dysentery, piles, inflammation of the bladder and bleed-

ing from the lungs. Used externally they are an admirable remedy in quinsy, malignant sore-throat and in mumps, to be applied in the form of a fomentation with hot vinegar. When made in the form of a poultice they are good applied to ulcers, sores and tumors. A decoction made of equal parts of these and horsemint and drunk freely three times a day is an excellent remedy for disease of the kidneys.

Description—Mullein is a very common plant growing in all parts of the country, in old fields and open grounds. It has a straight stalk, from three to seven feet high. The leaves are soft and velvet-like, and at the top it has a spike of yellow flowers.

MUSTARD (*Sinapis Alba*).

Part used—The seeds.

The bruised seeds or the powder, mixed with Indian meal and vinegar to form a plaster, are excellent to relieve inflammation. Dyspepsia has often been cured with the seeds, particularly when it was accompanied with constipation. Dose, a teaspoonful three times a day. It is useful in chronic rheumatism and palsy, to stimulate the vital actions and equalize the circulation. It is often used externally to relieve rheumatic pains. Ground mustard is extensively used for plasters or poultices for various affections. These applications should not be left on longer than twenty or thirty minutes, for they are liable to produce dangerous vesication, which is very apt to be followed by ulceration and gangrene. If wet with syrup or molasses instead of water they are not so

apt to vesicate (blister). Mustard applied to the nape of the neck often relieves nervous headache. Neuralgia is sometimes relieved by it. And in eruptive diseases that have left the surface it is an admirable remedy for bringing out the eruption again. In those cases it should be applied to the extremities.

**NERVINE, American Valerian, Moccasin Flower,
Umble Lady's-Slipper** (*Cypripedium Pubescens*).

Part used—The root.

It is valuable in nervous headache, nervous irritability, hysteria, restlessness and whenever a safe and mild nervine is needed.

Dose of the infusion, from a half to a teacupful every two hours or oftener, according as the symptoms may demand. It is often combined with skull-cap in severe nervous affections.

It is a valuable substitute for the foreign valerian and in many respects fully equal to it. Dose of the tincture from two to three teaspoonfuls three to six times a day, according to the urgency of the symptoms.

Description—Height from one to two feet, leaves three or four inches long and two or three wide, flowers large, somewhat the shape of a moccasin, either of a white or pale yellow, with red or purple spots. The roots are about the size of a wheat-straw, bunchy and crooked.

Where found—In rich, sandy lands, on the borders of streams, on hill-sides and in shady woods.

NETTLE (*Urtica Dioica*).

Part used—The entire plant.

For spitting of blood and all hemorrhages of the lungs, stomach and urinary organs, this is one of the most powerful agents in the vegetable materia medica. It has also been employed successfully in diarrhea and dysentery. It should be drunk freely in the form of a decoction. For hemorrhages, the expressed juice of the fresh leaves is regarded more effective than the decoction, given in teaspoonful doses every hour or as often as the nature of the case demands. It is a favorite remedy among the Germans for neuralgia, to be taken in doses of four tablespoonfuls of the decoction three times a day, and at the same time bruise the leaves and apply as a poultice to the affected parts. When ten or twelve of the seeds are taken at a dose, three times a day, they are said to be a very effectual remedy for the cure of goiter, or “big neck.”

Where found—Growing plentifully in almost all parts of the United States, and is known among the farmers as the “stinging nettle.”

NIGHT-BLOOMING CEREUS (*Cactus Grandiflorus*).

Parts used—The young branches and the flowers.

This plant is now regarded as an effectual cure for one

form of the heart-disease, medically called *angina pectoris*. It must be given in small doses two or three times a day and its use perseveringly employed. The saturated tincture should be used. It is made by adding two ounces of the fresh bloom to half a pint of alcohol. Dose, one to five drops, every one, two or three hours, according to the urgency of the symptoms. But after these have passed it may be administered regularly three times a day in two or three-drop doses. This medicine is also recommended in dropsy and rheumatism.

Where found—This plant grows plentifully in Mexico, but seldom found in the United States, except in drug-stores.

NUX VOMICA (*Dog-Button*).

In the administration of this medicine, great care must be observed, as it is a powerful poison.

It is used in paralysis, neuralgia, dyspepsia, obstinate constipation, painful and suppressed menstruation, chronic dysentery, chills and fever, St. Vitus's dance, mania, chronic inflammation of the spleen and rheumatism. Dose of the extract, from one sixtieth, to one thirtieth of a grain: of the powder, one to three grains. Nux vomica must not be used in local irritation of the brain or spinal cord, where there is determination of blood to the head, nor in apoplectic or corpulent persons.

Nux vomica is an efficacious remedy in cholera-morbus and diarrhea, in cases which are attended with much

debility, and likewise in cases of congestion of the liver.

It is a valuable medicine in some forms of indigestion, accompanied with pain and flatulence of the stomach. For this purpose, from one to three drops of the tincture may be taken in water. One dose will ordinarily be sufficient, but if not, a second may be taken in an hour or two.

A strong tincture may be prepared by adding four ounces of powdered nux to half a pint of alcohol (96°). The dose of this is from one to five drops.

Description and where found—*Nux vomica* is the seed of a tree growing in the East Indies, called *strychnos nux vomica*. It is about the size of an ordinary coat-button, and is frequently used as a poison to kill dogs; hence its name, *dog-button*. It is from this article that strychnine—one of the most deadly poisons known—is obtained, half a grain of which will frequently cause death.

NUTMEG (*Nux Myristica*).

It is generally used in combination with other medicines and to flavor articles of diet and drink, but as a general rule, the less it is used for the latter purpose the better. When charred it has been used with success in the cure of chills and fever, taken in doses of ten to twenty grains, twice a day, and at the time the chill comes on, grated nutmeg mixed with lard is often used as an application to the piles. It possesses stimulant and carminative properties, and is used to remove flatu-

lency, but should be taken in small doses, as from five to ten grains, for in large doses it will produce stupor and delirium.

NUT-GALLS.

These galls are used in bowel-complaints and are especially good in chronic diarrhea. For children it is best to boil in milk. Dose of the infusion, two table-spoonfuls; of the tincture, ten to twenty drops, to be taken two or three times a day. Add a half-teaspoonful of alum to one pint of the strong infusion; this makes a valuable injection in leucorrhea, falling of the womb and gleet. Three of the galls are sufficient to make a pint of the strong infusion. They are useful in bleeding from the lungs, stomach and bowels, and can be given in the form of powder in doses of from one to ten grains every three hours.

Where found—These galls are imported mostly from Mediterranean parts and may be found in drug-stores.

ORANGE (*Citrus Aurantium*).

The juice of the orange is a good remedy for the scurvy, and useful in measles, small-pox, etc. It is used freely in fevers, when there is a dark-brown coat on the tongue. The rind or peel should not be taken into the

stomach, as it is very difficult of digestion. Orange-juice is mildly tonic, but should not be used in large quantities, as it has produced injurious symptoms. The oil of orange, is prepared from the rind, and the *oil of neroli* from the flowers.

OPIUM.

This is the concrete juice of the unripe seed-vessels of the white poppy, medically called *Papaver Somniferum*, which is cultivated more or less in gardens, as a flower. It is used in all forms of disease where pain, nervous irritability, spasms and morbid mucous discharges are present. It is employed in cholera-morbus, cholic, dysentery, diarrhea, lock-jaw, epilepsy, asthma, consumption, wounds, fractures, toothache, neuralgia, and generally, to allay pain and lessen nervous excitability in all febrile and inflammatory diseases, and also to produce perspiration.

The dose of opium varies according to the susceptibility of the patient to its influence, from one-fourth of a grain to two, and, in extreme cases, as many as three grains may be given, two or three times a day. For the purpose of producing sleep and relief from pain, under ordinary circumstances, the dose is one grain; of the tincture ten to forty drops. Externally, in the form of a liniment or plaster, it is used to relieve pain and subdue inflammation, as in rheumatism, neuralgia, erysipelas, etc. As a general rule, it should not be used where there is determination of blood to the head, or in con-

stipation. In too large doses, it produces an apoplectic state and death.

There are thousands, including many physicians, who use opium very imprudently and destructively.

There are but few drugs that have produced more deaths than this, especially among children. At the first cry of helpless innocence, the young mother calls forth that potent pain-relieving and sleep-producing potion in the form of Mrs. Winslow's Soothing Syrup, composed largely of morphine, which is one form of opium, accomplishing the fond mother's desire, but resulting often in sending the little victim into the land of perpetual sleep.

In certain conditions of the system, the administration of opium, or morphine, is extremely dangerous; and it is questionable whether either of these, including laudanum and paragoric, which are preparations of opium, contain any curative properties. But the fact is unquestionable, that opium in all its forms often produces injurious effects.

If the skin is dry and hot and the pulse hard, small and quick, the mouth dry, the pupils contracted, the eyes dull and heavy, the face flushed, and there is headache or determination of blood to the brain, with an expressionless countenance, *then* if opium should be taken, it would *be at the peril of life*. At any time when the above conditions prevail, do not permit *any one*, not even your *physician*, if he is ignorant enough to prescribe it, as is sometimes the case, to administer this medicine.

Papaverin—This is the aqueous extract of the poppy, or opium, and is quite different in its effects from opium or morphine. In all cases where a potent nervine is desired and we wish to avoid constipation, papaverin may be given. The instances are numerous where the

calming properties of opium are desired without its constipating effects, as in neuralgia, colic, rheumatism, gout and other painful affections. This preparation does not leave the same very unpleasant effects that follow the use of opium, as headache, sick stomach, restlessness, delirium, etc. This article is prepared in either the fluid or solid form. The dose is from one-sixth to one-eighth of a grain. The preparation called *svapnia* is said to be similar to the above.

Morphine—This is the concentrated preparation of opium. There are several preparations of morphine employed; namely, sulphate, valerinate, acetate and muriate of morphine or morphia. But the sulphate of morphia is most commonly used. It is in the form of a fine, white powder, the dose of which is from one-eighth to one-half a grain, one-sixth of a grain being equivalent to one grain of opium. Persons habituated to its use are able to bear double what they otherwise would. It should never be given to infants, as there is danger of giving too much.

Laudanum—This is a tincture of opium. It can be made by tincturing a half-ounce of opium in a half-pint of spirits. Dose is from five drops to twenty, but the latter amount should only be given in cases of extreme pain. For a child one month old, one drop only should be added to one tablespoonful of water, and one teaspoonful of this given for a dose every four hours; and then it may be increased according to age.

Paregoric—This is a milder preparation of opium. It is made of opium, oil of anise, benzoic acid, gum-camphor and dilute alcohol. It is anodyne, used to allay pain. Dose, for children under three years of age, five drops, and over that age ten drops.

ONION (*Allium Cepa*).

The onion is a popular remedy for croup. It may be sliced and sugar mixed with it and the syrup given to the patient; or it may be roasted and the expressed juice given. It is useful in colds of infants, and makes a good poultice for foul ulcers, boils, suppurating tumors, etc. Onions are very superior in the treatment of croup; for the manner of using them, see this disease. For coughs and pain in the side or chest, slice onions and fry them, and apply them in the form of a poultice at night, and it will give relief to the patient and afford sleep.

OLIVE-OIL (*Oleum Olivæ*).

This oil taken internally acts mildly on the bowels and is useful in inflammation of the stomach and bowels. Dose as a laxative, one tablespoonful; and with some patients it may require even more. This oil has been used in coughs and catarrh. It is employed with good success when applied externally over the whole surface of the body, in scarlet fever and other febrile eruptive diseases. It is regarded as a sure cure for the bite of poisonous snakes, taken internally and at the same time applied externally. Dose, a tablespoonful every ten to twenty minutes, until eight or ten are taken. Olive-oil is one of the mildest laxatives we have, and should be used with little children where castor-oil is now used. In conse-

quence of the injurious and destructive effects castor oil has on their tender digestive organs, it should never be given if it can be avoided. Olive-oil is a valuable article for injections, by rubbing up two or three tablespoonfuls with the yolk of an egg and adding a little water. Dyspeptics should not use this oil. It is much adulterated, and therefore great care should be exercised in the purchase of it, in order to obtain the pure article.

OIL OF CAJEPUT (*Oleum Cajeput*).

This oil is employed with good effect in chronic rheumatism, cholera-morbus, colic, flatulence, cramps of the stomach and bowels, and where a powerful stimulant is required. The dose is from one to five drops on sugar. It is useful in many cases of toothache, applied on cotton to the cavity of the tooth. It is often used externally for painful affections, as neuralgia, rheumatism, etc. But in such cases it is generally combined with other oils in the form of a liniment.

Where found—The oil is obtained from a tree growing in the East Indies and is sold by all druggists.

PARAGUAY TEA (*Ilex Paraguayensis*).

Part used—The leaves.

This is a powerful nerve-stimulant, *not acting* like tea or coffee. Persons who take this can withstand hunger or go without eating for an incredibly long time.

It sustains the system during the hot summer months in a remarkable manner, preventing the tired and relaxed feeling that exists at that season of the year. Dose of the fluid extract, one-half to a teaspoonful three or four times daily.

PARSLEY (*Apium Petroselinum*).

Parts used—The herb and seeds.

This herb is noted for curing dropsy, for which purpose it is to be used freely in the form of a decoction. An infusion is efficacious in suppression of urine and inflammation of the kidneys and bladder.

This plant is generally employed by mothers to arrest the flow of milk after weaning children. For this purpose the leaves are to be bruised, saturated with camphor and applied. The powdered leaves and seeds, sprinkled on the head, will effectually destroy vermin of all kinds.

The seeds are a valuable substitute for quinine in malarial diseases, and in difficult and painful menstruation. It is also of much value in the night-sweats of consumption. Dose of the fluid extract, from one-half to a teaspoonful, three or four times a day.

Where found—This is a common plant, growing throughout the country.

PAW-PAW SEEDS (*Uvaria Triloba*).

It is employed in constipation, dyspepsia and piles. In large doses it acts as an emetic. Dose of the fluid extract, ten to twenty drops, three or four times a day.

PARTRIDGE-BERRY, Winter Clover, Squaw-Vine, Checkerberry (*Mitchella Repens*).

Part used—The vine.

A decoction of the vine is reputed to cure dropsy. To be drunk freely three or four times a day. It is celebrated among women in cases of parturition or childbirth. Its use is very common among the Indians: the squaws drink the decoction several weeks before and during delivery, which, it is said, renders that dreaded event remarkably safe and easy. It is highly esteemed by some as a remedy in piles and diarrhea, for which it is prepared by boiling in sweet milk and drinking it freely. The tea has been used with success in suppression of urine.

Description and where found—It is a small, ever-green, perennial vine, lying close to the ground, usually in beds or mats. The leaves are small and round; flowers, white; the berries, bright scarlet-red. It is found in shady woods and almost every variety of soil, and is common to most of the States.

PEACH-TREE (*Amygdalus Persica*).

Parts used—Bark, leaves and pits.

Peach-pits, tinctured in brandy, are an efficacious remedy in the treatment of leucorrhœa. The proportions are two ounces to a pint of brandy. Dose, a teaspoonful

three times a day. This tincture is a powerful tonic, and for this purpose it is used in fever and ague, debility, etc.

A bitters made of the leaves, or of the bark of the root, taken in tablespoonful doses, four or five times a day, is a celebrated remedy for the cure of jaundice. A tea or syrup, of the bark or leaves, is an excellent purgative, and useful in bowel-complaints and worms; given to children in teaspoonful-doses, until it operates on the bowels. To grown persons, double that quantity should be given. A tea of the bark is one of the best remedies for bloody urine, and for bleeding from other internal parts.

The leaves, employed as a fomentation, and often renewed, are a superior remedy for inflammation of the stomach and bowels, as well as for other inflammations. The gum which exudes from the peach-tree answers all the purposes of gum-Arabic, and is regarded as superior to it.

A strong tea or syrup of the bark or leaves is a most admirable remedy for vomiting; and especially for nervous vomiting, it is one of the most positive remedies we have. It will generally control the vomiting of cholera-morbus, and that, also, from irritation and congestion. It usually acts very promptly in allaying vomiting in morning-sickness.

For these purposes, it may be taken in doses of two to four tablespoonfuls every one to two hours, or oftener in urgent cases.

PEONY, Piny (*Paeonia Officinalis*.)

Parts used—The root and seeds.

This is employed in spasms, hooping-cough, St. Vitus's Dance, and in nervous diseases generally.

It is to be made in an infusion, one ounce of the root coarsely bruised to one pint of boiling water. Dose, from a third to half a teacupful three times a day; of the powdered root, a teaspoonful three times a day, in case of fits. It was regarded in ancient times as a sovereign remedy for fits, or epilepsy.

Where found—Cultivated in gardens, on account of its beautiful red flowers.

PEPPERMINT (*Mentha Piperita*).



Peppermint.

Parts used—Leaves and stems.

Useful to check nausea and vomiting, to expel wind, relieve hysterics and prevent the griping effects of cathartics. Bruised and applied to the stomachs of children, it is useful to allay sickness and vomiting. It is mostly used in the form of essence. It is also a superior remedy for sea-sickness.

Description and where found—From one to two feet

high. It grows wild and is extensively cultivated in many parts of the country.

PENNYROYAL (*Hedeoma Pulegioides*).

Parts used—The tops and stems.

The warm infusion is used to promote perspiration. It is employed in colds, obstructed menses, colic in children, and as a sweating and cooling drink in fevers. The tincture, or the oil of pennyroyal, is often employed in whooping-cough and spasms, to be taken in doses of two to ten drops.

Equal parts of the oil and linseed-oil, are a very valuable application for burns. It is said to be useful in rheumatic affections, applied externally. The infusion may be drunk freely several times a day.

Where found—This is an annual plant, growing plentifully throughout the country.



Pennyroyal.

PENTHORUM SEDOIDES.

This remedy has of late attracted much notice as a remedy for catarrh, catarrhal inflammation of the larynx, chronic bronchitis, with increased secretion of mucus, and catarrhal affections of the stomach and bowels. It is demulcent, laxative and somewhat astringent in its action. Dose of the fluid extract, ten to twenty drops.

PERSULPHATE OF IRON.

This preparation of iron is a fine astringent; in fact, it is the most powerful external astringent that we have and will arrest hemorrhage from small vessels very promptly. As an injection for falling of the womb this is the most powerful remedy we have, and may be used in solution of ten or twenty grains to the ounce of water, or the common solution diluted one-half is strong enough. In piles, if the tumors are not too large, it cures them entirely. It may be applied, diluted one-half with water, twice a day, and held on the tumors a few minutes. If the tumors are internal it must be used by injection, or just after stool, if they then protrude.

PERUVIAN BARK (*Cinchona Officinalis*).

There are several varieties, the principal of which are red, pale and yellow barks. This is a popular remedy

for chills and fever. Quinine, which is an extract of this bark, is now generally used instead of it and for the same purposes. The yellow bark is generally employed in the preparation of quinine.

Where found—It is obtained from trees growing in South America, and found at drug-stores only in this country.

PERSIMMON (*Diospyros Virginiana*).

Parts used—The bark and unripe fruit.

The infusion forms an invaluable gargle for ulcerated sore mouth and throat, and likewise an injection in leucorrhea. They have been successfully used in chronic dysentery, diarrhea and flooding. It is said that they have been used with good effect in fever and ague. Dose of the infusion or syrup, one tablespoonful or more every three hours.

Where found—This tree is common in the Middle and Southern States.

PETROLEUM (*Mecca Oil*).

The Mecca oil is the crude petroleum or coal-oil.

It is said to be used very successfully in chronic bronchitis and laryngitis (clergyman's sore throat), where

there is great irritability. It is also employed in scrofula. Dose, from thirty to sixty drops, three times a day. It is one of the best remedies in use for wounds, applied externally and likewise in skin-diseases.

The common kerosene or lamp-oil is an admirable remedy in croup, applied externally to the throat and chest, and at the same time taken in doses from two to five drops internally. Also in many cases of sore throat and diphtheria it acts promptly.

It is a very excellent application for burns, and has frequently cured some forms of rheumatism.

PINK-ROOT, Carolina Pink (*Spigelia Marilandica*).

Part used—The root.

It is a valuable remedy for worms, and when employed for this purpose senna should be added to prevent any nervous symptoms and to increase the virtues of the pink. Steep one ounce of the pink-root and four drachms of senna in one quart of water. Dose, two tablespoonfuls, twice a day. When the powdered root is employed, give one to two teaspoonfuls; to children ten to twenty grains, according to age.

Description—Height, from one to two feet, purplish-colored stalk, pink-shaped flowers, which are of a bright red color outside and yellowish inside.

Where found—In drug-stores and grows wild in most of the states.

**PLEURISY-ROOT, Butterfly-Weed, White
Root (*Asclepias Tuberosa*).**

Part used—The root.

This is highly extolled as a remedy for the cure of pleurisy. It is a superior medicine for relieving difficult breathing, and diseases of the lungs. A warm tea of equal parts of pleurisy-root and wild yam is unsurpassed for the cure of cholic, especially flatulent colic.

This root is a good remedy in acute rheumatism and dysentery.

As a diaphoretic, or sweating medicine, it is regarded unsurpassed.

It relieves pain in the breast and bowels, and assists digestion. Dose of the infusion or *strong decoction*, from one to four tablespoonfuls, to be repeated once an hour, or as often as the exigencies of the case may require, or until free perspiration is induced; after which, give a tablespoonful three times a day; of the powder, thirty to sixty grains (half to a teaspoonful) three times a day. Dose of the extract or tincture, from thirty to fifty drops.

Description—This plant has a large, white, crooked, branching, perennial root, sending up several erect,



Pleurisy-Root.

round, hairy or woolly stems, branching at the top, green or red. Leaves promiscuous, very hairy, pale on the under side, of an oblong shape, and thick or fleshy. Flowers of a beautiful, brilliant orange-color.

Where found—In open lands, gravelly and loose soils, along streams and roadsides.

PLANTAIN (*Plantago Major*).



Plantain.

Part used—The whole plant.

The juice of the leaves will cure the bite of rattlesnakes, poisonous insects, etc. It is to be taken in tablespoonful doses every hour, and at the same time apply the bruised leaves to the wound. When applied to wounds, ulcers, erysipelas, salt-rheum and other affections of the skin, they are invaluable. It is said that a strong decoction of the leaves and root will

break the chills. The early stages of syphilis have been cured with a strong decoction of the roots and leaves, taken by one to two wineglassfuls, three times a day. The green seeds and stems boiled in milk will generally cure diarrhea and bowel-complaints of children. It is also very useful in scrofula, piles and leucorrhea. Dose of the decoction, from one-half to a teacupful, three times a day.

Where found—In all parts of the United States.

POISON HEMLOCK, Poison Parsley (*Conium Maculatum*).

Parts used—Leaves and seeds.

This is useful in scrofula, goiter, enlargement and palpitation of the heart. It is also used for quieting the nerves and inducing sleep.

Dose of the extract, one-fourth to half a grain; of the inspissated juice, from half a grain to two grains three times a day. The leaves are very useful applied as a poultice to tumors and ulcers.

This plant is a narcotic poison and must be used with care. It is not much used latterly.

Description—Height, three to four feet. The lower leaves are large, growing around the joints of the stalks, forming a sort of sheath. The flowers are small and white.

Where found—In meadows and swamps.

POMEGRANATE (*Punica Granatum*).

Parts used—Rind of the fruit and bark of the root.

The bark is an infallible remedy for the expulsion of the tape-worm. Two ounces of the bark are steeped in two pints of water for twelve hours, after which the whole is boiled down to one pint, strained, and given in wineglassful doses every two hours, until the whole is taken. It usually causes several passages of

the bowels or nausea and vomiting. The doses generally require to be taken for several successive mornings before the whole of the worm passes away.

Where found—In drug and grocery-stores.

POKE-ROOT (*Phytolacca Decandra*).



Poke-Root.

Parts used—The root, leaves and berries.

Both the berries and root of this plant are in high repute for the treatment and cure of rheumatism. Take half a pint of the juice of the ripe berries and an equal quantity of a strong decoction of rattle-root; add one gill of the best brandy. This given in doses of one to two tablespoonfuls three times a day, has cured many cases of rheumatism of several years' standing. The juice of the berries dried in the sun until it forms the proper consistence for a plaster, applied twice a day has cured cancers. Dose of the extract, two to three grains; of the powdered root, three to five grains two to three times a day. The root, roasted in embers and ashes and made into a poultice and applied, will scatter tumors and felons if applied in time; if too late for that it will hasten suppuration or the formation of "matter."

It is said that an application of the juice of the leaves will cure the itch and also ringworm.

Description and where found—It grows from four to six feet high, with a large, rank, soft stalk; the stems green at first, afterwards purple or red; leaves large and scattering, with large bunches of soft, blood-red berries.

Poke is a favorite remedy with some physicians in the treatment of syphilis, scrofula and chronic skin-diseases. The old, dried root of this plant is of but little value.

POOR MAN'S HOUR-GLASS (*Anagalis Arvensis*).

Part used—The herb.

This plant has recently proven to be an excellent remedy for asthma. It is of much value in hysterics, epileptic fits and in all nervous affections. Dose of the tincture, in acute cases, from three to five drops, every hour or two; in chronic cases, three times a day; of the infusion, a teaspoonful. It must be used with care, as it is poisonous in large doses.

Description—It is a prostrate or creeping plant, of a bright-green color, with small, scarlet-purple blossoms, opening in cloudy weather.

Where found—In yards, gardens and along roadsides.

POPPY (*Papaver Somniferum*).

Parts used—Leaves, flowers and seeds.

This is the common white poppy and has been referred

to under the head of opium, which is a product of this plant and generally used for the same purposes. A tea or decoction of the leaves, blossoms or heads may be used in place of opium. Poultices made with this decoction are very excellent when applied to painful swellings, ulcers and inflammation, to soothe and lessen the pain. The infusion is used in nervous headache, cholera-morbus, toothache, earache, etc.

Where Found—Cultivated in gardens as a flower and for medicinal purposes, and sold by druggists.

PRICKLY ASH (*Xanthoxylum Fraxineum*).



Prickly Ash.

Parts used—The bark of the root and the berries.

The berries in the form of bitters are esteemed a good remedy in rheumatism and likewise in cholera. It is an excellent tonic in the recovery from fevers, as well as from some other diseases. It promotes general perspiration, warms and invigorates the stomach and strengthens the digestive organs. It also tends to equalize the circulation. The tincture of the berries is a superior remedy for pains in the stomach, colic, diarrhea, cold feet and for whatever depends on a sluggish circulation. And the tincture, made by putting the inside bark in whisky, will afford relief in the

most inveterate cases of toothache. A small portion of it is to be held in the mouth. The fresh bark chewed will answer the same purpose. Dose of the tincture, from one to two teaspoonfuls three times a day; of the powder, ten to thirty grains.

Description—It is a small tree, from twenty to thirty feet high, common to this country. The ripe berries are black and near the size of a pea, are hot and peppery to the taste, and contain an oil which gives them a fragrant odor, somewhat like that of lemon.

PRICKLY ELDER, Toothache-Tree, Angelica-Tree, Southern Prickly Ash (*Aralia Spinosa*).

Parts used—The bark and berries.

It is used in diarrhea and rheumatism of a chronic character. The tincture of the bark and berries is used to relieve toothache.

Its medicinal properties are very similar to those of the prickly ash. Dose of the decoction, cold, two or three tablespoonfuls, two or three times a day; of the tincture, one to two teaspoonfuls.

Description—This is a bush, growing usually from ten to twenty-five feet high, but sometimes, in the South, attaining the height of fifty or sixty feet. It has small, white flowers, which appear from July to September, and small, blackish, juicy berries. The bark has a peculiar, aromatic odor, and prickly, bitterish taste.

PRINCE'S FEATHER, Amaranth (*Amaranthus Hypochondriacus*).

Part used—The leaves.

This herb is most noted for being an effectual cure for profuse menstruation, for which purpose a tea is to be drunk freely. It is an astringent, and as such, is useful in bowel-complaints.

Description—Height, from four to five feet; leaves dark; blossoms of a deep-red color; usually cultivated in gardens as an ornamental plant.

PTELEA, Water-Ash, Swamp Dogwood (*Ptelea Trifoliata*).

Part used—The bark of the root.

This is an excellent remedy in chills and fever. It is also regarded as a good remedy in asthma when tinctured in whisky and taken in doses of one to two teaspoonfuls every two or three hours. Dose of the powder, from twenty to thirty grains three to six times a day; of the tincture, one to two teaspoonfuls.

Description—Ptelea is a small shrub growing from five to ten feet high. It produces a peculiar-shaped seed about the size and shape of a wafer, with a sort of winged edge all around it.

PUMPKIN-SEEDS.

A strong infusion of these seeds will expel the tape-worm. It is also good in inflammation of the bladder and bowels, strangury and retention of urine. The oil of pumpkin-seed is obtained by expression, and in most cases is a quick and sure remedy in scalding of the urine, and it is said will cure gonorrhea.

Whenever a diuretic is needed it is safe and efficient. Dose of the oil, from six to twelve drops four or five times a day ; of the infusion, drink freely every two or three hours.

A good way to prepare the pumpkin-seed for tape-worm, is to remove the outer envelope and then beat to a paste in fine sugar and dilute with milk or water. Of this the patient may take freely on an empty stomach, followed in a day or two with a dose of castor-oil and turpentine or some other good, active cathartic.

A fluid extract is now prepared with alcohol and glycerine in drug-stores, which is a good preparation. The dose is from two teaspoonfuls to one tablespoonful repeated every four hours, and followed each day by a brisk cathartic of one drop of Croton-oil in two tablespoonfuls of castor-oil. It is necessary to have a brisk cathartic in order to expel the tape-worm. It should be remembered that all remedies administered for tape-worm should be given on an empty stomach.

PRIVET (*Ligustrum Vulgare*).

Part used—The leaves.

The decoction is efficacious as a gargle, in ulcers of the throat and mouth, ulceration of the bladder and ulceration of the ears with offensive discharges. They are good in the diarrhea and summer-complaints of children, ulceration of the bowels and stomach, and in excessive flow of urine.

Dose of the decoction, from one to two wineglassfuls, three times a day; of the powder, twenty to fifty grains.

QUAKING ASP, Aspen, White Poplar, Silver Poplar (*Populus Tremuloides*).

Part used—The inner bark of the tree.

The inner bark is one of the best bitter tonics in all cases of ague, intermittent and bilious fevers, where strengthening medicine is needed. It may be used freely in infusion or decoction and in powder or bitters. Dose of the powdered bark, a teaspoonful three times a day; and in bitters it may be used freely as a restorative in loss of appetite, weak digestion, dyspepsia and chronic diarrhea. It is also useful in diseases of the kidneys and bladder.

Description—The body is straight and slender and from twenty-five to fifty feet high. The leaves are con-

stantly in a state of tremulous motion, even when there is no perceptible breeze stirring. The outer bark of the tree is of a grayish color, sometimes nearly white and very smooth.

Where found—It is usually found in groves on level and moist lands.

QUEEN OF THE MEADOW, Gravel-Root (*Eupatorium Purpureum*).

Parts used—The root and the inner bark of the shrub.

A strong decoction of the root is esteemed almost an infallible remedy for the gravel. Both the root and inner bark of the shrub, in consequence of their direct action on the kidneys, are very efficacious in the treatment of dropsy. Some medical writers assert that it has cured impotency. It is also highly extolled as a remedy in sterility, threatened abortion and incontinence of urine. Dose of the decoction, from half to a teacupful: of the tincture, twenty to thirty drops, three or four times a day.



Queen of the Meadow.

Description and Where Found—Root long, fibrous, white or brownish-colored. Stems four to six feet high, round, smooth, of a purple color around each joint, bearing many purple or pale-reddish blossoms. Leaves in whorls, from three to five at a joint, broad, rough and jagged. Grows usually in damp soil or near streams, though sometimes on high, dry land.

QUASSIA (*Picræna Excelsa*).

Part used—The wood of the tree.

The wood of this tree is tonic, and very good in dyspepsia, and bilious fever, and in ague.

The infusion is employed in the treatment of worms, and in general debility, and by convalescents from fevers. Dose of the tincture, one to two teaspoonfuls; of the powder, thirty grains; of the infusion or decoction, half a teacupful, three times a day. The latter may be made by infusing two ounces of the fine chips in two quarts of cold water for ten hours. An injection of the decoction will expel the pin-worm.

QUININE (*Sulphas Quinia*).

This is a very popular remedy in various forms of fever, especially the chills and fever, and other diseases that manifest a periodic character. The dose, in these cases, is said to range from two to ten grains. But the latter quantity, it is reasonably believed, is much larger than is usually necessary for the purpose of preventing a paroxysm of ague. Much smaller doses, in cases to which the medicine is specially adapted, being sufficient, in ordinary cases, to effect the desired object.

It is best given in doses of two grains, and repeated every three hours until ten or twelve grains are taken.

It should be given only during the intermissions; that is, while the patient is free from fever. Quinine is believed by some physicians to possess *tonic* properties. If such an idea is to be endorsed or even *tolerated*, the dose, for such a purpose, might be set down as being from one-tenth to one-half a grain, taken two or three times a day.

Description—It is extracted from the Peruvian bark.

QUININE-FLOWER (*Sabbatia Elliottii*).

This plant possesses strong antiperiodic properties and was largely used by the Southern army during the late war, as a substitute for quinine, on account of the high price and scarcity of the latter. Dose of the fluid extract, ten to twenty drops. It is a native of Florida.

RAG-WEED, Hog-Weed, Roman Wormwood (*Ambrosia Elatior*).

Part used—The leaves.

This is regarded an effectual cure for bowel-complaints. A strong tea of it is a sovereign remedy for dysentery, and many regard it as infallible.

The decoction or tea is very useful as a gargle for sore throat, and as an injection in leucorrhœa and gleet.

Piles have frequently been cured by stewing the green

leaves in fresh lard or sweet cream, and using as an external application.

The leaves make a superior fomentation for inflammations of various kinds.

The tea, or infusion, should be drunk freely, three or four times a day.

Description—It is from two to three feet high, with a branching top, and opposite, ragged leaves.

Where found—Along roadsides, in fields and waste places.

RASPBERRY (*Rubus Strigosus*).

Parts used—The leaves and root.

This is an excellent remedy in dysentery and all bowel-complaints of children. It is used to mitigate labor pains in child-birth, and to relieve painful menstruation. The infusion is a valuable wash in sores, ulcers and raw surfaces, and an effectual astringent. The leaves of the red species are said to be the best. Dose of the infusion, from one-fourth to one-half teacupful, three or four times daily. Raspberry is so common that a description is unnecessary.

RED CLOVER (*Trifolium Pratense*).

Parts used—The blossoms and leaves.

This is an admirable remedy for malignant ulcers, cancers, scrofula, indolent sores from burns, and incon-

tinence of urine. It possesses very soothing properties, and promotes healthy granulation. A decoction is to be boiled to an extract and applied twice a day. It has been the means of effecting some remarkable cures of cancers. A weak tea will relieve hay-asthma, and often cut short the disease.

Red clover is common to the United States and a well-known plant.

A tea of the tops and leaves, taken freely, is efficacious in relieving and shortening the duration of whooping-cough.

RED CEDAR (*Juniperus Virginiana*).

The leaves of this tree are good in chronic rheumatism, scalding urine and suppressed menses. The oil is used as a stimulating application to bruises, rheumatic pains, etc. Dose of the infusion, from one to two wineglass-fuls; of the powdered leaves, one to two drachms; of the oil, five to ten drops, taken twice a day. The red cedar is an evergreen tree, found in many parts of the United States.

RED ROOT (*Ceanthus Americanus*).

Part used—The root.

It is an excellent astringent in diarrhea and dysentery and has been used with good effect in the first stages of

consumption. It is also employed in asthma, bronchitis and hooping-cough. Dose of the decoction, from one to two tablespoonfuls three or four times a day. In the form of a gargle it is used with good effect in sore-mouth, throat and in scarlet fever.

Description—Height, from one to three feet, having a long, woody root of a dark-red color and a small, bushy top of shrubby stems.

Where found—On barren lands in almost all parts of the country.

RESIN, OR ROSIN (*Resina*).

It is used in bleeding piles in doses of twenty to sixty grains, given in syrup, and likewise used in irritable and hacking coughs. The vapor arising from burning resin is said to be good inhaled into the throat and lungs in bronchitis and diseases of the lungs. Its principal use is to give adhesiveness and consistence to ointments and plasters. Resin is a hard, brittle substance, sometimes called rosin. It is a product of the pine-tree. After the oil has been distilled from the turpentine of the pine-tree, a solid substance is left, which is the ordinary rosin of commerce.

RHATANIA (*Krameria Triandria*).

Part used—The root.

This is an excellent remedy for bleeding of the nose,

spongy and bleeding gums or the surfaces of wounds, or in bleedings of internal organs. It is also employed in excessive menstruation, involuntary flow of urine, gleet, chronic diarrhea and in night-sweats. It is somewhat tonic, but a powerful astringent, and very useful whenever a medicine of this kind is needed. Dose of the infusion, from half to a teacupful; of the powder, ten to twenty grains; of the tincture, one to three teaspoonfuls; of the extract, five to ten grains, two or three times a day. But it is used much more frequently in hemorrhages.

Where found—A foreign plant, but found in all drug-stores.

RED LOBELIA (*Lobelia Syphilitica*).

Parts used—The root and leaves.

This species of lobelia is regarded by those who are acquainted with its properties as the most powerful and valuable medicine for the cure of cancer, scrofula, and of venereal diseases, particularly syphilis. In these affections it is used in strong decoction, the patient drinking from a pint to a quart in a day. In the case of ulcers, they are to be washed with it. It is highly recommended for the cure of cancer of the breast in females. For this purpose the decoction, in doses of a wineglassful, should be drunk three or four times a day. Also a poultice of the powdered root or leaves and equal parts



Red Lobelia.

of elm-bark should be applied to the breast, and often renewed. At each renewal of the poultice, the cancer should be well washed with the warm decoction. It is also useful for ulcers, wounds and inflammation that have a tendency to terminate in gangrene.

Description and where found—It closely resembles the blue lobelia in all points but its flowers, which are large and of a pale-red color. It is a native of the West Indies, and flowers in January and February, and continues to bloom until late in Summer; also found growing in the United States, usually in low, flat woods and dry marshes.

RHUBARB (*Rheum*).

Part used—The root.

It is useful in dyspepsia, liver-affections, piles, and in small doses it is very valuable in diarrhea and dysentery. Being a mild cathartic, it is regarded as valuable for delicate persons. It is also somewhat astringent and tonic. Dose as a purgative, thirty to sixty grains, or from half to a teaspoonful.

When given in five to ten-grain doses, two or three times a day, it acts as a tonic and mild laxative, and in doses of one to five grains, as a tonic only. The syrup or tincture, in doses of one to two teaspoonfuls, is laxative. There are several varieties of rhubarb imported from different parts of the world, but that from Turkey is regarded as the best.

RHEUMATIC WEED, Prince's Pine (*Chimaphila Umbellata*).

Parts used—Tops and roots.

A tea of this plant is a valuable medicine for rheumatism, dropsy, scrofula, diseases of the kidneys and cancer. Externally it is used for washing cancerous and scrofulous ulcers, and bathing rheumatic joints. It should be drunk freely.

Description—The leaves are evergreen, long, wedge-shaped, smooth and shining. Flowers purple and white, or reddish-white, and growing at the top of the stem.

Where found—On dry, sandy land and in shady situations.

ROCK-BRAKE, Common Polypody, Rock Polypod, Fern-Root, Brake-Root, Female Fern, etc. (*Pteris Atropurpurea*).

This plant is recommended for dysentery, night-sweats and hemorrhage. It is used in the treatment of worms. The decoction may be used freely. It forms a good local application for ulcerated sore mouth and throat and malignant ulcers. It is employed in the treatment of leucorrhea. Rock-brake is a perennial fern and found growing in most of the States. It is a good remedy for lung-difficulties. It is said that cases of consumption have been cured with it.

ROSE-WILLOW, Red Willow, Swamp-Dogwood
(*Cornus Sericea*).



Rose-Willow.

Parts used—Bark of the root and stalk.

This plant is a potent and reliable remedy for relieving the vomiting of pregnancy. It is also used in the treatment of womb-diseases. A decoction or tea may be drunk freely four or five times a day.

Description—It grows from five to ten feet high, having small flowers of a yellowish-white color, fol-

lowed by small, blue berries.

Where found—Along the borders of streams and on moist lands.

ROUND-LEAVED PTYROLA, Wintergreen,
Pear-Leaf, Canker-Luttice (*Ptyrola*
Rotundifolia).

Part used—The herb.

It is used in infusion both externally and internally in cancer, scrofula, leucorrhea, and some diseases of the womb. Internally, the decoction or an extract has

been used with success in gravel, bleeding from the kidneys and ulceration of the bladder. Externally, the decoction will be found an excellent application in sore throat, ulcerations of the mouth, indolent ulcers, and forms a soothing poultice for boils and carbuncles. Dose of the decoction, one-half to a teacupful; of the extract, two to four grains.

Description—A shrubby evergreen.

RUE (*Ruta Graveolens*).

Part used—The leaves.

It has been used with success in flatulent or wind-colic, epileptic fits and worms. When taken during pregnancy, it has produced deleterious effects, terminating in miscarriage and other dangerous symptoms. Dose of the infusion, from two to four tablespoonfuls; of the powder, ten to twenty grains; of the oil, two to six drops. In large doses it is a narcotic poison.

Where found—Cultivated in gardens.

RUSH (*Equisetum Hyemale*).

The ashes of the rush are reputed to be a good remedy for dyspepsia and sour stomach, taken in doses of five to ten grains twice a day. The infusion of the tops or stems is employed in diseases of the kidneys, dropsy and gravel. To be taken freely three times a day.

It has recently been discovered that the tincture of the

rush is one of the most important remedies known for incontinence of urine. Prof. Hale, of Chicago, reports various cases, three of which were in the same family, and promptly cured with it. It may be prepared by adding a handful of the herb to a pint of alcohol.

Description—This is the common, well-known scouring rush, growing in wet lands; from one to three feet high; pointed, hollow, rough, furrowed stems and without leaves.

SAFFRON (*Crocus Sativus*).

Part used—The flowers.

This is a very popular remedy for jaundice and red-gum in children and for female obstructions. Dose of the infusion, from two tablespoonfuls to two-thirds of a teacupful (one to three fluid ounces); of the tincture or syrup, one to two teaspoonfuls three times a day. The infusion is used in colds and to produce perspiration in measles, small-pox, etc.

Where found—Growing in gardens.

SAGE (*Salvia Officinalis*).

Part used—The leaves.

The infusion is much used for sore and ulcerated throats in the form of a gargle, either alone or with vinegar, honey and alum. The tea drunk freely is esteemed one of the best remedies for curing night-

sweats. The infusion is reputed to possess the property of repressing the sexual appetite. It will generally cure quinsy by simmering a handful of it in lard and giving it in doses of two teaspoonfuls four or five times a day. Warm sage-tea is an excellent sweating-agent for fevers, coughs and colds.

It is too common to need a description.

SAGO (*Saga*).

This is a very useful article of diet for sick, delicate and convalescent persons. It is also very valuable in bowel-complaints. Prepared by boiling thoroughly one or two tablespoonfuls in a pint of milk or water and sweetening with white sugar.

Where found—In grocery and drug-stores.

SWEET SUMACH (*Rhus Aromaticus*).

Part used—The bark of the root.

This is one of the most reliable medicines now in use for diabetes. It is excellent in bloody urine, diarrhea and dysentery. Dose of the fluid extract, from ten drops to a teaspoonful three times a day.

Description—It is a shrub growing from two to six feet high, inhabiting high, rocky soil; stems straight, branching near the top, flowers yellow, fruit clustered, red, seedy and acid. When the bush is fractured it

emits a strong odor from whence it takes its common name. The bark of the root is the proper medicinal part. This bush is found more plentiful in the Western States than elsewhere. Parke, Davis & Co., of Detroit, now manufacture a fluid extract of this shrub, which may be obtained at drug-stores.

SARSAPARILLA (*Smilax Officinalis*).



Sarsaparilla.

Part used—The root.

This is an important remedy in syphilis, scrofula, skin diseases and rheumatism. It stands high as a blood purifier, but many regard the burdock or the yellow parilla equal to it. Dose of the decoction or syrup, half to a wine-glassful three times a day.

Description and where found—This plant grows wild in South America, Mexico and some other parts of the world. That which comes from Honduras is

said to be the best. It is found in drug-stores.

SANDAL-WOOD (*Santalum Album*).

It is used with good effect in gonorrhea, remittent fever, leucorrhea and other diseases. Dose, half a tea-

spoonful three times a day. It is a new remedy and has not been in use long, but the success that has been attained in its administration in the cure of diseases, especially gonorrhea, will soon bring it prominently into use.

SASSAFRAS (*Laurus Sassafra*s).

Part used—The bark of the root.

The oil applied to any inflammation on the surface seldom fails to effect a cure, and given in doses of five to ten drops is efficacious in diseases of the kidneys and bladder.

Given in painful menstruation, it soon relieves the sufferer. It is a sovereign remedy for toothache, applied to the gums and in the tooth by means of cotton or lint saturated with it. It is used with good effect in after-pains.

The tea prepared from it is very pleasant and may be drunk very freely. The oil, in which form it is commonly employed, may be given in doses of from ten to twenty drops twice a day. A poultice of the root is a good application to ill-conditioned ulcers.

An infusion is good to thin the blood and may be used for this purpose as well as to flavor other drugs. The oil may be used as an ingredient in liniments and furnishes an excellent application to bruises and swellings.

Description and where found—It is a well-known tree common to this country and sometimes growing from thirty to forty feet high.

SAVINE (*Juniperus Sabina*)

Parts used—The leaves and small twigs.

It is employed in obstructed menstruation. Dose of the infusion, from one to two tablespoonfuls, three times a day; of the powdered leaves, from five to ten grains. In overdoses, it will produce inflammation of the stomach and bowels and other dangerous consequences. It should not be given during pregnancy, as it is liable to produce abortion.

Oil of savin is an oil obtained by distillation of the savin twigs, and is now the form in which it is mostly used. The ordinary dose, in suppressed menses, is five to six drops, two or three times a day.

Description and where found—It is an evergreen shrub, growing from five to fifteen feet high; a species of cedar, and may be found in drug-stores.

SAW-PALMETTO (*Sabal Serrulata*).

This is a valuable plant for the treatment of chronic bronchitis, hooping-cough, catarrh, colds and coughs. A medical journal, speaking of this new plant, says, "Medical attention was called to it by its superior fat-producing properties in animals that feed upon its fruit. It was noticed that as soon as the berries matured, the animals that fed upon them grew very sleek and fat. A physician (Dr Reed) noticing the very marked health of

the animals that fed upon the berries that grow upon the sabal serrulata, concluded to try it as medicine, and the result was that he found the berries to improve the digestion, increase flesh, strength and weight, and readily relieve irritation of mucous tissues, especially that of the nose and air passages. He used it in catarrh, ozæna and chronic bronchitis, with prompt success. One experimenter used it in whooping-cough with good success. There are several persons using it in this city, and they say with happy effect in catarrh and ozæna. Several persons used it here last winter in old bronchial coughs, and they say with the best success. I took a dose of it one hour before meal-time, and it gave me an appetite for my dinner which I had not had for some time. I am fully of the opinion that it will prove valuable in coughs, colds and debility generally."

It grows very plentifully on the coast of the Southern States.

SEA-WRACK (*Fucus Vesiculosus*).

This is an anti-fat remedy of great merit. No derangement of the stomach or general system seems to result from its use. Dose, half a teaspoonful, three times a day, and gradually increased to a tablespoonful, of the fluid extract; of the sugar-coated pills, two to five.

* * * "The fucus vesiculosus, or sea-wrack, has been often called to my attention on the Atlantic Coast in my summer tours in that section. I have frequently recommended it to my patients, but not with the results that I anticipated. I used it only in decoction. A

medical friend of mine in Philadelphia presented me with a pound bottle of Parke, Davis & Co's fluid extract; I had three patients affected at one time; I divided it and ordered it to be taken in doses of one tablespoonful thrice daily. The first week each one lost over eight pounds. I was so pleased with the result that I procured a few pounds and put them on tablespoonful-doses three times a day. The average weight of the three was two hundred pounds each; in seven weeks the medicine brought them down to 130 pounds each."—*Prof. Chapman, M. D., Philadelphia, in Eclectic Medical Journal.*

SCULL-CAP, Blue Scull-Cap, Hoodwort (*Scutellaria Lateriflora*).



Scull-Cap.

Parts used—Whole plant, leaves, stems and roots.

This plant is prompt and efficacious in St. Vitus's Dance and is employed very successfully in nervous headache, neuralgia and nervous affections. It is especially valuable to relieve restlessness, wakefulness; convulsions, delirium tremens, and is useful in nervous and inter-

mittent fevers. One ounce of the dry herb should be infused in a quart of water and drunk freely. It has been used efficaciously in hydrophobia.

Description—Height, three to four feet; leaves small; with numerous branches, which are opposite; small, light-blue flowers. The roots are small, fibrous and of a yellowish color.

Where found—In meadows, moist lands and along water-courses.

SCAMMONY (*Convolvulus Scammonia*).

This is a very active cathartic, but should be combined with a small portion of ginger, or coriander-seed, to prevent its griping. It is beneficial in dropsical diseases and to relieve torpor of the liver. Dose, five to ten grains, two or three times a day. It should not be employed when the bowels or stomach are inflamed.

Description and where found—A gum-resin made from the root. It is a foreign plant, but has been domesticated in this country.

SEA-HOLLY (*Eryngium Maritimum*).

Part used—The root.

In the sections of country where this plant is well known it is regarded as a very valuable remedy for the cure of consumption. It is prepared for use as follows: Take one half-ounce of the root, pearl-barley half-ounce,

licorice root three ounces, add one quart of water, reduce to one pint by gentle heat. Dose, a wineglassful, mixed with new milk, three times a day, to be taken before meals.

Description—Height, from one to two feet; leaves circular, plaited form, glossy like those of the common holly, of a pale-blue color; flowers blue and terminate the branches in rounded heads.

Where found—It grows more commonly along the sea-coast and flowers from August to September.

SENEKA SNAKE-ROOT (*Polygala Senega*).

Part used—The root.

On account of its expectorant properties, it is considered beneficial in asthma, coughs, diseases of the lungs, bronchitis, chronic catarrh, pneumonia, croup, dropsy and rheumatism. It should never be used in active inflammation. Dose of the powder, from ten to twenty grains; of the infusion, from a half to a wineglassful; of the tincture, one to three teaspoonfuls.

Description—This is a small, crooked shrub or plant, twelve or fifteen inches high, growing in various parts of the United States. It has but a few small, white blossoms, which appear from June to August. The root is from two to three inches long and from a fourth to a half an inch in diameter, tapering and irregular in shape, resembling the ginseng-root. The central part of the root is tough and woody.

SENA (*Cassia Acutifolia*).

This is a mild but a very effective cathartic. Its tendency to produce griping and nausea are obviated when combined with ginger, cinnamon, cloves, sugar or manna. It should not be used in cases of inflammation of the stomach, bowels or in piles.

Dose of the tincture, from one to two tablespoonfuls; of the powder, ten to twenty grains; of the infusion, from a half to a teacupful.

Where found—Only in drug-stores in this country.

SHEEP-LAUREL, Narrow-Leaf Laurel
(*Kalmia Augustifolia*).

Part used—The leaves.

Internally, a decoction or tincture is successfully used in syphilitic diseases, hemorrhages, diarrhea, dysentery, fevers, diseases of the heart, neuralgia and jaundice. Dose of the decoction, a tablespoonful. Applied in the form of an ointment, the leaves have been efficient in scald-head and itch.

This is a poison and must be used with care. When taken in large doses it produces dimness of sight, vertigo, cold extremities and sometimes death. In administering it, when any of these symptoms appear, the

dose must be diminished, or the use of the remedy suspended for a few days.

This shrub is often mistaken for the *Laurel* or *Calico Bush* (*Kalmia Latifolia*).

Both are common to almost all parts of the United States, growing on hilly lands and in mountainous regions.

SHEEP-SORREL (*Oxalis Stricta*).

Parts used—The leaves and stems.

This plant is mostly celebrated as a remedy for cancer. The juice of the green herb is to be expressed, then evaporated in the sun until it is of the proper consistence to make a plaster, then applied and renewed once or twice a day. Numerous cases of cancer have been cured with it. The fresh leaves bruised and infused in cold water make a good cooling drink in fevers, and are valuable in scurvy; but on account of the Oxalic acid it contains, it should not be taken in too great a quantity.

Sheep-sorrel has recently been discovered to be one of the most superior remedies for the cure of kidney-complaint.

Description and Location—There are several varieties of sorrel, but this, the common variety, is generally well known, growing in the woods and shady places, from five to fifteen inches high; having light-green, round or head-shaped leaves, in “threes” at the ends of the branches, somewhat resembling the small-clover leaves. The flowers are small and yellow. The herb is quite juicy, and has a sour or acid taste.

SLIPPERY ELM (*Ulmus Fulva*).

Part used—The bark of the tree.

As an external application in the form of a poultice slippery-elm bark is an admirable remedy, far exceeding any other known production as a poultice for ulcers, tumors, swellings, gunshot wounds, chilblains, burns, cutaneous diseases, felons, old, obstinate ulcers and for sore mouth.

It promptly allays inflammation and promotes resolution. An enema or injection of elm-bark infusion is excellent in bloody flux, piles and dysentery. A cold drink in the form of a mucilage, made by infusing a quantity of the bark in cold water, should be used in bronchitis, strangury, sore throat, inflammation of the bladder, diarrhea and bowel-complaints. Always use the fresh bark if it is at hand, bruising a handful and infusing it in two quarts of water over-night.

The powdered bark boiled in milk is a valuable diet for children in summer-complaint. It may be had at any drug-store and found growing wild in nearly all parts of the United States.

SHEPHERD'S PURSE (*Bursa Pastoris*).

Part used—The whole plant.

It is employed in the treatment of diseases of the kidneys and bladder, and as a tonic. Dose of the fluid extract, ten to fifteen drops, four times a day. The infu-

sion may be drunk freely. This plant grows in all parts of the country.

SMART-WEED, Water-Pepper (*Polygonum Punctatum*).

Parts used—Stems and leaves.

A cold infusion of the herb has been used with success in gravel, and affections of the kidneys and bladder; and a cold infusion made of this herb and wheat-bran is an excellent remedy for bowel-complaints. It is to be drunk freely. Smart-weed makes an excellent fomentation combined with hops, to be applied warm to the abdomen in inflammation of the bowels. A strong decoction is good to wash foul ulcers.

It will dissolve coagulated blood. If a fomentation of it be applied to a bruise, immediately after being received, it will prevent the parts from becoming discolored. It will also remove the soreness, if frequently renewed. This herb is excellent for the purpose of opening the pores of the skin and producing free perspiration. Hence, it is useful in colds and some forms of fever. The strong tincture, taken in doses of one to two teaspoonfuls, three times a day, will relieve obstructed menstruation. When the tincture cannot be obtained, employ a strong infusion.

Description—Height from one to two feet, with reddish-brown-colored, jointed stems, lance-shaped leaves and small, purplish flowers.

Where found—In yards, along roadsides, ditches, and on moist lands.

SOLOMON'S SEAL (*Convallaria Racemosa*).**Part used**—The root.

A strong decoction given every two or three hours will cure erysipelas, if at the same time it be applied externally to the affected parts. In leucorrhœa it will be found very useful. In poisoning from poison-vine a decoction if drunk freely, will, it is said, very speedily effect a cure. It is a mucilaginous tonic and very healing and restorative. It is good in inflammation of the stomach and bowels, piles, chronic dysentery and affections of the lungs. It is generally used in decoction or infusion in doses of from one to two wineglassfuls three to five times a day.



Solomon's Seal.

Description and where found—This is a perennial plant and is common to most parts of the United States. It grows from one to three feet high, and generally on rich banks, hillsides and on the borders of meadow-lands. Leaves oblong and pointed, from three to six inches long, small, greenish-white flowers, hanging under the leaves, followed by pale-red, white and purple-speckled berries. There is another species of which the berries are black or dark-blue when ripe. Both varieties have the same medicinal properties.

SOOT (*Fuligo Ligni*).

Wood-soot is useful in acid conditions of the stomach, dyspepsia and colic. Dose of the tea, from one to three tablespoonfuls three times a day; of the powder, five to ten grains three times a day. The tea or decoction is employed as an injection to expel thread-worms. An ointment of soot is good in scald-head, burns, erysipelas and scrofulous sore eyes.

SPEARMINT (*Mentha Viridis*).

Spearmint.

Parts used—The herb and oil.

The oil of this plant is unsurpassed, perhaps, for the cure of chronic diarrhea, for which purpose it is to be given in doses of two to three drops every three hours. It is seldom that more than two or three doses will have to be taken. It is very val-

uable to check vomiting and to remove sickness of the

stomach. In disease of the kidneys, suppression and scalding urine it is a very effective remedy.

Dose of the infusion, a wineglassful three times a day.

Description — It resembles peppermint, usually growing in moist lands, from one to three feet high, having a strong, aromatic smell, more rank and less pleasant than that of peppermint.

SPIDER'S WEB (*Araneæ Tela*).

The cobweb of the spider, which is so common everywhere, is said to be almost a specific for fever and ague. We have been assured by different persons who have used it, that when rolled into an ordinary-sized pill, two or three would be generally sufficient to effect a cure, but should be given longer if necessary, and is to be taken every two or three hours. Some physicians give it in about five-grain doses. For consumption, where it has been used, it is said to have produced surprising effects. It is also very valuable in asthma. Its use will procure the most tranquilizing sleep. Applied externally, it will check the bleeding of wounds. The brown or black spider produces for the purposes above indicated the best web, and it is usually found in cellars, dark out-houses and barns. It is recommended in wakefulness, spasms and nervous excitement, and generally produces the most delightful state of bodily and mental tranquility. It is given in doses of four and five grains, in the form of pills, three times a day.

SPIGNET, Spikenard, Wild Licorice (*Aralia Racemosa*).



Spignet.

Part used—

The roots and berries.

They are popular remedies for coughs and also for female weakness, used in tea or syrup. The roots bruised and used in poultice are applied by the Indians to all

kinds of wounds and ulcers. Rafinesque says they are more efficient than the sarsaparilla in syphilis and all other complaints in which that article is used.

Description—The roots of this plant are brown, tapering, several growing from one common head, about the size of the finger, one or more stems arising from the same root, from two to four feet high, reddish-brown and somewhat branched. Leaves consisting of nine folioles or smaller leaves. Flowers, of a yellowish-white; berries resembling elder-berries.

The *small Spikenard* (*Aralia Nudicaulis*) possesses similar properties to the above.

SPICE-WOOD, Wild Allspice, Spice-bush, Fever-bush (*Benzoin Odoriferum*).

Parts used—Bark, twigs and berries.

A strong tincture of the ripe berries of spice-wood will relieve flatulent colic, taken in teaspoonful-doses. A tea made from the twigs is esteemed a good drink in intermittent fevers. It is also an efficacious remedy for worms. The berries boiled in milk have been found a salutary medicine in dysentery. The oil from the berries is a fine stimulant for bruises, colic and rheumatism. The infusion is to be drunk freely.

Description and where found—This plant has light-green leaves, flowers early in the Spring and in Autumn, and has small, red berries when ripe. The whole shrub, including the leaves and berries, has a spicy, agreeable, aromatic odor. It grows in moist and shady lands.

**SPIRITS OF AMMONIA, Aqua of Ammonia,
Spirits of Hartshorn.**

It is employed in hooping-cough, delirium tremens and in prostration from exhausting discharges as a stimulant, as an antacid in heartburn, acid stomach, and sick headache caused by acid stomach; and applied to the nostrils as a stimulant in fainting, headache, etc. The

dose is from ten to twenty drops, largely diluted with water, and which may be repeated as required

It should not be used internally, except when largely diluted with water, otherwise it will act as a corrosive poison. Vinegar or lemon-juice is good to antidote the effects of an overdose:

When ammonia is combined with sweet oil it makes a good liniment.

SQUILL (*Scilla*).

This plant is generally used for the relief of coughs, diseases of the lungs, asthma, bronchitis, dropsy, catarrh, croup and kidney-disease. It is usually employed in the form of vinegar and syrup of squills. Dose of the powder, from one to two grains; of the syrup or vinegar, one to two teaspoonfuls. It is generally used in combination with other medicines. It should not be used when there is much excitement of the circulation, especially when it amounts to inflammation; nor should it be taken in large doses in any case, as it is an irritant poison, producing inflammation of the bowels and other serious consequences.

Where found—Only in drug-stores, in this country.

STAFF-VINE, Bitter-Sweet, Red-Root (*Celastrus Scandens*).

Part used—The root.

When made into an ointment with lard, this is unsur-

passed for dispersing or scattering painful tumors. As an application for ulcers and sores it scarcely has an equal. It is used in jaundice, obstructed menstruation, scrofula and venereal diseases. It is likewise valuable in cutaneous diseases. Dose of the decoction, from two to four tablespoonfuls. To make the ointment, add one-fourth pound of the bark of the root to one-half pound of lard, simmer slowly over the fire for two or three hours, then strain for use. This will be found unsurpassed for swelled breasts and also for piles.

For internal use, boil four ounces of the bark of the root in two quarts of water down to one quart, and take a wineglassful three times a day. This will be found highly valuable in liver-complaint and general weakness, and seldom excelled for scrofula.

The "Botanic Physician," by Elisha Smith, says, in speaking of this plant, "It is a powerful and useful medicine, though, like most of the invaluable medicinal plants which Nature so profusely furnishes to our hands, its virtues are appreciated but by few. It increases all the secretions and excretions, particularly sweat, urine and stool, and excites the heart and arteries. It is an excellent discutient, detergent and resolvent medicine, and may be employed both externally and internally. It is peculiarly beneficial in real liver-complaints, and in all cutaneous affections; also in rheumatism, scirrhus swellings, ill-conditioned ulcers, scrofula, whites, jaundice and obstructed menses. Cancers of the breast have been cured by the application of the juice over the cancer and the green leaves over the breast. For internal use, boil half a pound of the bark to one gallon; the dose, a gill three times a day. It is also good in fevers and dropsical swellings."

Description—This is a woody vine, usually climbing trees (though not always) to the height of thirty feet.

The leaves are ovate and pointed, of a light-green hue; the berries hang in bunches and become red in the Fall. The roots are of an orange-red color, large and long.

Where found—Mostly on rich soil and on bottom lands.

There is another vine called “Bitter-Sweet,” which is described under that head, and which is the “Bitter-Sweet” proper.

STILLINGIA, Queen's-Delight, Yaw-Root, Silver-Root (*Stillingia Sylvatica*).

Part used—The root.

It is exceedingly valuable in syphilis, bronchitis, clergyman's sore throat and tetter. It is also used in chronic liver-complaint, ordinary sore throat, and being a good blood-purifier, is very useful in eruptive diseases of the skin. When compounded with burdock or yellow-dock, it is very superior for this purpose. This plant is one of the most powerful and valuable alteratives in use. It will generally remove all traces of the syphilitic disease from the system. The fresh root must be used. The remedy has often fallen in disrepute, because it was prepared from the dry root, which is useless. The iodide potassium is frequently combined with the stillingia in the treatment of syphilis. Some physicians regard the combination essential.

Dose of the decoction or syrup, from a half to a wine-glassful, three times a day; of the tincture, one teaspoonful.

Description—Height, from two to four feet; leaves

alternate, oblong, of a silver color on the lower side; flowers are arranged on a spike, and of a yellow color. The stalk and leaves when bruised emit a milky juice, like the milk-weed. It has a large root, somewhat like that of the parsnip, quite hard, and of a yellowish-brown color, has a bitter, pungent taste, and peculiar oily smell when fresh.

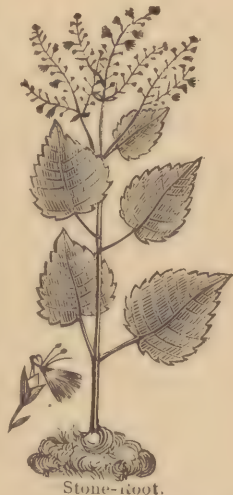
Where found—This plant grows in many parts of the United States; though it is much more common in the pine-barrens of the Southern States.

STONE-ROOT, Richweed, Richleaf, Oxbalm, Healall, Knotroot (*Collinsonia Canadensis*).

The fluid extract, made from the root of this plant, is a specific in clergyman's sore throat. It should be given in doses of twenty drops; of the tincture the same, in simple syrup or honey, four or five times a day. It relieves the hoarseness in a few hours, and, if continued, will accomplish a cure.

It is a reliable cure in the early stages of the piles, and will, sometimes, cure them in the advanced stages of the disease. It is found very useful in chronic bronchitis.

It is highly prized as an external application to sores, painful parts, swellings, poison and headache. Taken in tea for headache, colic, cramp, dropsy, indigestion,



Stone-root.

etc., internally ; applied in poultice or the whole leaves, externally ; used both fresh and dry.

Description—The root of this plant is knotty and hard, throwing out many slender fibers. Stem erect, round, from twenty to thirty inches high, terminating in several branches at the top which produce the flowers and seeds. Leaves few, opposite, broad, large and thin. Flowers numerous, pale-yellow, possessed of a peculiar balsamic fragrance.

Collinsonin is the active, concentrated principle of stone-root.

This article, though recently introduced to the medical world, is receiving much attention as a remedy in valvular diseases of the heart. And in functional diseases of this organ, where from organized exudations the valves are obstructed, this remedy has the specific power to break up that organization and thereby remove the obstruction. The dose is one to two grains three times a day, or triturated in lactine, one to ten ; dose of the trituration, ten to thirty grains three times a day.

STORAX (*Styrax Officinale*).

Part used—The concrete juice.

This medicine has been useful in chronic catarrh, bronchitis, asthma, coughs and chronic gonorrhea ; to be taken in doses of from ten to twenty grains. An ointment made of it with equal parts of lard has proven an effectual remedy in scald-head and ringworms.

Description and where found—The storax-tree

grows in the Mediterranean countries. It is found in shops and drug-stores in the form of a brittle, reddish-brown substance.

STRAMONIUM, Thorn-Apple, Jimson-Weed
(*Datura Stramonium*).

Parts used—The leaves and seeds.

A poultice or fomentation of either the green or dry leaves is an admirable remedy for the cure of inflammation of the stomach or bowels. At the same time the patient should take a swallow of as hot water as he can drink, and he will seldom fail to obtain prompt relief. This plant is highly



Stramonium.

valuable in inflammation of the bladder, painful swellings and sores, swelled and painful breasts and in rheumatism. An ointment prepared by stewing the leaves in fresh lard will be found to be an admirable remedy in piles. The leaves and seeds have been especially beneficial in delirium tremens, epilepsy and mania. It is stated to be an excellent preventive remedy in cases of impending abortion and miscarriage. Five of the seeds should be taken as a dose and repeated every ten to twelve hours, until the threatening symptoms disappear. The leaves

and seeds are highly poisonous when taken in large doses.

They should not be taken in any case where there is determination of blood to the head. The tincture of the seeds is used in neuralgia and headache. The dose is from five to ten drops.

Description and where found—Stramonium grows usually in great abundance around farms, in vacant lots and along roadsides. It is a very rank and offensive weed, growing three to four feet high, large, dark-green leaves, a long, whitish, trumpet-shaped blossom, and bears a large, thorny apple or pod, full of black seeds, when ripe.

STRAWBERRY (*Fragaria Vesca*).

Parts used—Leaves, root and berries.

A strong tea or decoction, made of the leaves or root, is an admirable remedy for diarrhea and all bowel-complaints of children, used freely. A cordial or syrup made of them, in combination with cinnamon and the root of the strawberry, is a sovereign remedy for all diseases of the bowels. Both the berry and the herb are said to be good in calculous or gravelly affections.

Where found—In gardens.

ST. JOHN'S WORT (*Hypericum Perforatum*).

Parts used—Leaves and flowers.

This plant is employed in the treatment of dysentery,

diarrhea, bleeding of the lungs, worms, jaundice, suppressed urine and nervous irritability. Applied externally as a fomentation or ointment it will remove swelled breasts and other hard tumors. Dose of the infusion, from two to four tablespoonfuls, three or four times a day. Many cases of chronic bronchitis have been cured by the use of this plant. It is employed in the treatment of kidney-disease, and when applied externally it is an efficacious remedy in sprains.

Description—Height, from one to two feet, with numerous green leaves, dotted with small, transparent spots and bright-yellow blossoms. The leaves, when rubbed, emit a strong, peculiar, balsamic odor.

Where found—Growing in great abundance in old fields and open lands,

STRIPED ALDER, Tobacco-Wood.

Says Dr. G. Westervelt, "Among all the valuable discoveries which I have made during five years' successful practice and experience, is the shrub called tobacco-wood, striped alder, etc. This plant grows as high as twenty feet, with the branches confined mostly to the top, where the leaves put out in pairs from the branches and are not very numerous. They are as long (some of them) as the two hands of a man, of a pale-green color, very soft and smooth and a strong, agreeable smell, but when dry have an odor of hyson-tea or young-hyson; they are very mucilaginous and, mixed in hot water, form a poultice very similar to slippery-elm-bark flour. The bark of the shrub is of a greenish color and striped; the fruit

is from two to three inches in diameter, tough and yielding. It grows on sides of hills and in thick, shaded woods where there is running water below. Leaves from one to two inches wide.

A tea of the leaves allays and relieves vomiting, under all circumstances, sooner than any other article known. Half an ounce makes a quart, steeped five or ten minutes. Dose, a wineglassful once in twenty minutes; the same in any internal inflammation; four times a day in pulmonary affections or internal ulcers. Swelled breasts of women are relieved and cured sometimes in twenty-four hours, by anointing them with an ointment made of the leaves, two ounces; bitter-sweet root, one ounce; spirits, one gill; lard, four ounces: boil, then soak a necessary quantity of the leaves in hot water sufficient to soften them and apply to the breast; a little elm-flour may be added to form a poultice. In general the leaves should be kept whole and three or four soaked in hot water and vinegar, equal parts, just enough to soften them. In all cases of inflammation of the stomach, lungs, spleen, liver, intestines, bladder, kidneys and uterus they are indispensable: apply the leaves and change them every three or six hours, according to the violence of the case, and take the tea internally as above directed.

SULPHATE OF NICKEL (*Niccoli Sulphas*).

This is a substance formed by dissolving carbonate of nickel in diluted sulphuric acid, concentrating the solution, and then letting it crystalize.

It has an astringent, sweetish taste. It is soluble in

three parts of water, but not in alcohol or ether. It can be relied on in headache, and is truly a specific for *periodical* headaches. It is a new remedy ; yet many very grave cases of neuralgia have already been reported as cured with it.

Prof. Goss, of Marietta, Ga., in his new "Materia-Medica," says, "I have used it in several very old cases of neuralgia, and have been utterly astonished to see how readily it relieves that most excruciating malady. It is particularly adapted to it when it is of a periodical character. I have not been better pleased with any new remedy that has been introduced to the profession." The dose is from one-fourth to one-half a grain. It is frequently given in doses of one-eighth to one-fourth of a grain, once or twice a day, or even three or four times a day, if required.

SULPHUR.

Sulphur is a sure cure for certain forms of skin-disease, especially the itch. It is commonly employed as an ointment, made as follows : Sulphur, two ounces ; sub-carbonate of potash, one ounce ; lard, eight ounces ; mix. Apply this to the parts affected, and wash off with strong soap every second day, then re-apply, etc. For many like affections of the skin, the sulphites of soda and potash will answer the same purpose, and are more cleanly. For humid tetter of the head, carbolic acid, alternated with the sulphites, will act well. Sulphur and cream of tartar, in equal parts, mixed together, is a very common and effective remedy for the same purpose.

SUMACH (*Rhus Galbrum*.)

Sumach.

Parts used—The bark, leaves and berries.

A gargle of the berries will cure putrid sore throat; it is, likewise, efficacious in quinsy.

A decoction, made of equal parts of this plant and white-oak bark, is a prompt and effective agent in the treatment of leucorrhea and falling of the womb, used by enema or injection. The bark of the root is a valuable specific for the cure of mercurial

salivation. It is likewise employed in the treatment of night-sweats, diarrhea and dysentery. An infusion of the berries will remove excessive discharges from the kidneys. Dose of the infusion or decoction, from two tablespoonfuls to a teacupful several times a day.

Description—Height, five to ten feet; blossoms of a greenish-red color, on spikes, followed by long bunches of hard, red berries, covered with a sort of short, red down, and are quite acrid, astringent and pleasant to the taste. There are other varieties of sumach, some of which are said to be poisonous. But this, the *Rhus Galbrum*, may easily be distinguished by the color and acidity of the berries, and their appearance in cone-shaped bunches. When the green leaves or limbs are broken or cut, a milky juice exudes.

Where found—Throughout the United States.

SUMMER-SAVORY (*Saturcia Hortensis*).

Part used—The plant.

It is employed in the treatment of colds, flatulent or “wind” colic and female obstructions; for which purposes the warm tea is used freely.

Where found—In gardens.

SWEET FERN, Sweet-Bush, Ferngale, Sweet-Ferry, Spleenwort-Bush (*Comptonia Asplenifolia*).

Parts used—The leaves and branches.

This is a prompt and efficacious remedy for expelling the tape-worm. A pint of the decoction is to be taken in broken doses during the day, for four or five days, when it is followed by a cathartic.

Sweet fern is much used in diarrhea and all bowel-diseases in children. It makes a very grateful, pleasant tea, with the addition of cream and sugar. It is also used in asthma, fevers, inflammations and rheumatism, and often as a fomentation.

It is said that a strong tea freely drunk, and the leaves put in a cushion to sit on and between the sheets to lie on, has cured the St. Vitus's Dance.

Description and where found—The sweet fern is a small, shrubby bush, very much branched, growing from three to four feet high, having long, horizontal roots.

Leaves from three to five inches long and half an inch broad, each side jagged, bearing some resemblance to the common ferns. Flowers appear before the leaves by a kind of round bur containing the seeds. Found throughout the United States, particularly in mountains and sandy plains.

SUNDEW (*Drosera Rotundifolia*).

Part used—The whole plant.

This plant is a very valuable remedy in chronic bronchitis and catarrh, attended with dryness of the mucous membranes and irritable states of the nervous system. It is excellent in the early stages of consumption, when attended with a harrassing cough without expectoration. It is very useful in the coughs accompanying measles; also in cases of hooping-cough where there are dryness of the air passages and much irritability of the nervous system. It is used in dyspepsia and asthma.

Dose of the fluid extract, three to five drops every two or three hours; of the saturated tincture, five to ten drops.

SUNFLOWER (*Helianthus Annuris*).

Part used—The seeds.

They are very beneficial in coughs, the early stages of consumption and in disease of the kidneys. They are

also used with success in bronchitis and in chronic laryngitis, or clergyman's sore throat.

In the first stages of inflammatory sore-eyes an infusion of the pith of the stalk used as a wash will often act promptly and effectively. It may be prepared in syrup or infusion and taken, of the syrup, in tablespoonful doses, every one, two or three hours; of the infusion, or tea, one-fourth to one-half teacupful every two or three hours.

Where found—Growing in gardens.

SWAMP-CABBAGE, Meadow-Cabbage, Skunk-Cabbage (*Ictodes Fœtida*).

Parts used—The root and seeds.

This plant has been found useful in asthma, coughs, epileptic fits, hooping-cough and chronic catarrh.

It is also employed in the treatment of bronchial affections and diseases of the lungs. Dose of the infusion, from two to four tablespoonfuls, three times a day; of the powdered root or seeds, ten to thirty grains; of the tincture, from one to three teaspoonfuls, repeated according to the urgency of the symptoms.

Description—It is an offensively smelling herb with large leaves, without any stalk, resembling somewhat a large cabbage-head. The root is large and soft.

Where found—In wet lands and moist situations.

SWEET FLAG, (*Acorus Calamus*).

Part used—The root.

The infusion is employed for flatulent or wind-colic, and may be taken freely. It is sometimes used as a syrup.

TAG-ALDER (*Alnus Serrulata*).



Tag-Alder.

Parts used — The leaves, twigs and cones.

The herb is used with good success in swellings, sprains and eruptions of the skin. It is prepared by bruising the leaves and applying them as a poultice. Boil the cones and twigs in water and add lard or butter. This makes an excellent ointment

for burns and scalds. Great relief is afforded to hot swellings by keeping the parts constantly wet by means of cloths wrung out of a decoction of it. The timely application of a tea of the leaves or boughs will "scat-

ter" boils. It is likewise very valuable in all diseases of the skin and should be drunk freely.

Description—Height, six to eight feet; usually many shrubs grow from the same root; leaves large and green, with cones or tags, resembling "witch-hazel."

Where found—Usually in wet lands and along streams.

SWEET GUM (*Liquidamber Styrociiflua*).

Part used—The inner bark of the tree.

It is an excellent remedy for bloody flux, dysentery and all bowel-complaints of children. Dose of the decoction, from one-fourth to a teacupful. It may be taken freely. It is regarded by physicians who have used it as a good remedy in chronic catarrh.

When this tree is wounded a balsamic juice exudes, about the consistence of thin syrup, which finally hardens. This, melted with equal parts of tallow or lard, makes an admirable ointment for various skin-diseases, such as itch, ringworms, etc. It is also good for "fever-sores" and piles.

Description—It is of various sizes, from that of a shrub, even to a large tree. The bark is of a gray color and rough, and bears some resemblance to the red elm.

TAMARINDS (*Tamarindus Indica*).

Part used—The fruit.

These are chiefly used for preparing cooling drinks for

the sick. They are laxative and mildly cathartic. At the same time the drink is very refreshing and grateful. It is infused in water and may be taken at pleasure.

Where found—In drug and grocery-stores.

TAMARACK, American Larch, Black Larch
(*Larix Americana*).

Part used—The bark.

It is useful in jaundice, diarrhea, rheumatism, liver-complaint and in cough-preparations. The decoction or bitters made of it may be taken freely.

Description—It is a tall tree and is a species of the pine.

Where found—The bark can be procured at the drug-stores.

TANNIN, Tannic Acid (*Acidum Tannicum*).

This is a powerful astringent, and in its administration care must be exercised to avoid an over-dose, as it will produce obstinate constipation. It is efficacious in dysentery, diarrhea and hemorrhages, and as an astringent enema in gonorrhea, gleet, leucorrhea, and forms an excellent gargle in sore throat. Rubbed up with lard it makes an invaluable ointment for excoriations of the skin. Dose, from half a grain to a grain. For a gargle, dissolve six grains in two tablespoonfuls of water. For

an ointment, mix ten grains with a tablespoonful of lard or glycerine. It should not be used internally when the patient is troubled with constipation, nor during the presence of active inflammation.

Description—This acid is contained in most astringent plants and trees. Oak-bark contains a large percentage of it. It is generally prepared from galls, which grow on a certain species of oak, called the *Gall-Oak*.

TANSY (*Tanacetum Vulgare*).

Part used—The tops.

A fomentation of tansy applied to the bowels is very effective in case of painful menstruation. A warm tea of it used at the same time produces perspiration and aids materially in promoting the menses. It is also very useful when applied to painful swellings, inflammations and sprains. For restorative and strengthening purposes, it is used in the form of bitters. A cold infusion of tansy is tonic, and has been used in some forms of dyspepsia. Dose, from two tablespoonfuls to two wineglassfuls, two or three times a day.

Oil of Tansy—This oil is a very active emmenagogue, and hence should not be taken by pregnant women, as it will produce abortion, and is regarded as dangerous. It is used as a worm-medicine. Dose, from two to five drops.

Where found—In drug-stores, and cultivated in gardens.

TETTER-BERRY (*Bryonia*).

Parts used—The root and leaves.

In some forms of catarrh this medicine is a certain cure. Dose of the fluid extract or saturated tincture, is five to six drops, two or three times a day. A good way to give the fluid extract is to add thirty or forty drops to four ounces (two wineglassfuls) of water, and of this give a teaspoonful at a dose. This medicine is often given with good effect in rheumatism, pneumonia, bronchitis, and is *especially* curative in pleurisy.

THYME (*Thymus Vulgaris*).

Part used—The leaves.

These should be taken freely in the form of a warm infusion for colic, colds and headache.

A cold infusion should be employed as a tonic for weak stomach, dyspepsia, and in recovery from exhausting diseases or to produce sweating, used freely as often as desired.

The Oil of Thyme is a good external application for toothache, neuralgia and painful swellings. It may be employed internally in place of the infusion in doses of two to ten drops.

This is the common garden-thyme: it is a shrubby herb and generally well known.

TOBACCO (*Nicotiana Tobacum*).

Tobacco applied in the form of a poultice is one of our best remedies in extreme cases of lock-jaw. It should be removed as soon as the patient becomes relaxed. And it is likewise very good in colic. Obstinate cases of constipation have been promptly removed by a poultice of tobacco-infusion. It is often employed in the form of an ointment in croup, piles, obstinate ulcers and painful tumors. It possesses acrid, narcotic and poisonous properties. Tobacco-smoke is often employed in earache and in rupture.

TOUCH-ME-NOT, Celandine (*Impatiens Pallida*).

Part used—The herb.

The tea of this plant is highly esteemed as a remedy for the treatment of jaundice. Its juice is beneficial for removing ringworm, salt-rheum and warts, or it may be applied in poultice, boiled in milk.

The decoction is useful in dropsy, to be taken freely.

Description—The stalk is of a watery appearance and full of juice. The flowers are hood-shaped, of a light-yellow color, with spots of dark orange, followed by a sort of pods, which if squeezed a little will fly to pieces.

TRAILING ARBUTUS, Mountain-Pink, Gravel-Weed (*Epigea Repens*).

Part used—The herb.

It has been successfully used in gravel and other diseases of the urinary organs, and in diarrhea and bowel-complaints of children. This is a woody plant, and common to almost all parts of the United States. The infusion of the leaves may be drunk freely.

TURKEY-CORN, Wild-Turkey Pea (*Corydalis Formosa*).

Part used—The root.

Prof. Payne, of Philadelphia, says, "There is no fact better established than that this medicine, judiciously administered, has the power to remove syphilis from the system."

When the tincture is prepared from the fresh herb and given in doses of twenty to thirty drops, three or four times a day, it will never disappoint the expectations of the prescriber. And likewise for scrofula, it is one of our foremost remedies. Dose of the infusion, one to two wineglassfuls, three times a day; of the powder, five to ten grains.

Description—This plant grows from six to twelve inches high, in rich, loose soil, flowering early in the Spring. It has a small, tender stalk, and small, fine

leaves of a bluish-green color; round, bulbous root, about the size of a large pea; from two to four of these peas to a stalk, attached to small roots; are rather hard, of a yellowish color and quite bitter. It bears small, reddish-purple flowers. It decays early in the season, therefore the time to gather it is in March or April.

TREE OF HEAVEN (*Ailanthus Glandulosa*).

This remedy has been found useful in epilepsy, palpitation of the heart, asthma, hysterics, hiccough and dysentery. Dose, from five to ten drops of the fluid extract; of the decoction, made by boiling one ounce of the root in a pint of water, one tablespoonful, three to five times a day.

TURPENTINE, Oil of Turpentine, Spirits of Turpentine (*Oleum Terebinthinæ*).

When this is combined with castor-oil it forms a good remedy for worms. Externally it enters into several lotions, preparations for rheumatism, tumors, chilblains, indolent and erysipelatous ulcers, and in burns and scalds, combined with linseed-oil.

For ordinary sore-throat and colds, five drops on a little sugar, swallowed slowly and repeated once or twice a day, is said to be almost a certain cure.

In dysentery and flux, ten-drop doses, mixed with

sugar, are an effectual and prompt remedy in many cases. It should be repeated every four hours.

For gonorrhea, gleet and leucorrhea, turpentine is often employed. In these cases, add one teaspoonful to two tablespoonfuls of a mucilage of gum-Arabic; and of this give a teaspoonful every three hours. In stoppage of the urine, it will generally, it is said, give speedy relief. To four tablespoonfuls add the same amount of vinegar and the yolk of one egg. This makes a good liniment for sprains, bruises and rheumatism, far more effective than many of the patent liniments sold at high prices. It is employed in bronchitis and the diarrhea attending typhoid fever. In doses of ten to twenty drops, repeated every three or four hours, it has proved efficacious in bleeding from the lungs, nose, stomach and bowels.

Turpentine should never be given in large doses, as it is liable to affect the brain, injure the kidneys or produce strangury.

TWIN-LEAF (*Jeffersonia Diphylla*).

Part used—The root.

It has been used with good success in cramps, chronic rheumatism and dropsy. Externally it is used in sore eyes; also as a gargle for ulcerated sore throat and scarlet fever. Dose of the decoction, one to two wineglassfuls; of the tincture, two to four teaspoonfuls, three times a day.

Description—The root is perennial, and has numerous small fibers. It has many leaves, which grow on long foot-stalks. The flower-stem produces one single white flower.

UNICORN-ROOT, Star-Grass, Crow-Corn, Ague-Root (*Aletris Farinosa*).

Part used—The root.

This has proved very efficacious in dyspepsia and flatulent colic, and is especially useful for the purpose of restoring the inactivity of the generative organs, giving them tone, vigor and healthy action. It is a most valuable agent to prevent the tendency to miscarriage; and for falling of the womb it has few equals. Dose of the tincture, six to ten drops, three times a day; of the powdered root, five to eight grains. It has lately been used with good success in diabetes—excessive flow of urine—in which case it should be combined with alum. It is also very efficient in green-sickness and painful menstruation. Unicorn-root combined with black-haw, in equal proportions, made into a decoction, is a remedy of unsurpassed value in cases of threatened abortion. Dose, a tablespoonful, three times a day; in urgent cases, every hour or two; of the fluid extract, half a teaspoonful every two hours.



Unicorn-Root.

Where found—In dry, sandy soils and barrens, in most parts of the country.

Description—Height, from a foot to eighteen inches; leaves pale, smooth and evergreen; bears white flowers; root small and irregular, from one to two inches long, of

a dirty, dark color, very hard, full of little pits, rough and wrinkled.

URTICA DIOICA.

In all diseases of the kidneys this new remedy has proved a good one. It is advantageously employed in diarrhea, dysentery, piles, various hemorrhages, in scurvy and febrile affections.

Dose of the fluid extract, ten to twenty drops three or four times a day.

UVA-URSI, *Arbutus Uva-Ursi*, Bear-Berry, Upland Cranberry (*Arctostaphylos*).

This is a very serviceable remedy in chronic inflammation of the bladder and in chronic diarrhea and dysentery. It has been employed with good effect in gleet, gonorrhea, leucorrhea, incontinence of urine, catarrh of the bladder and gravel.

The decoction is made by boiling for a few minutes one ounce of the leaves in one quart of water. Dose, half a teacupful three or four times a day; of the powder, ten to fifty grains.

Description—It is a perennial, evergreen shrub, growing in dry, upland regions, in the northern parts of Europe and America and always to be found in drug-stores.

VALERIAN (*Valeriana Officinalis*).

Part used—The root.

It is employed in epileptic fits, St. Vitus's Dance, nervous derangement, especially for nervous females, restlessness and in wakefulness during fevers. Dose of the tincture, one to two teaspoonfuls three times a day; of the infusion, a wineglassful; of the extract, three to six grains; and of the oil, five drops.

Where Found—In drug-stores. This plant is very similar in its medicinal properties to the American valerian, or lady's slipper.

VENICE-TURPENTINE.

This is a thick liquid, which exudes from the trunk of the abies larix, an European tree. It possesses medicinal properties similar to the oil of turpentine and the turpentines generally.

VANILLA (*Vanilla Aromatica*).

Part used—The bean.

This is used in low grades of fevers and hysterics. It is an excitant of the generative organs, increasing sexual desire. It may be used in an infusion, one-half of the

powdered bean to one pint of boiling water, in doses of two or three teaspoonfuls three times a day.

Where found—A foreign plant, but may be procured in all drug-stores in this country.

VELVET LEAF (*Pareira Brava*).

Part used—The root.

It is employed in gravel, dropsy, chronic inflammation of the kidneys and urinary organs.

Dose of the infusion, from one-fourth to one-half a teaspoonful, three times a day; of the fluid extract, one to two teaspoonfuls.

Description and where found—It is a large, climbing vine, a foreign plant, but found in drug-stores.

VIOLET, Blue-Violet, Bird's-Foot Violet (*Viola Pedata*).

Part used—The whole plant.

It is used in coughs, consumption, disease of the kidneys and syphilis. It is mucilaginous, alterative and slightly laxative. In urinary affections, when a mucilaginous diuretic is needed, it is a very useful plant. It may be used in the form of a syrup made from the herb or root.

Description—This plant has no stalk, is small,

leaves nearly round, on slender stems from two to three inches long; flowers appear in May and are deep blue or purple.

VERVAIN, Vervine, Wild Hyssop (*Verbena Hastata*).

Parts used—The leaves and stems.

This is regarded as one of the safest and best remedies known for suppressed or checked menses. Dose of the decoction, half to two-thirds of a teacupful, three or four times a day.

The decoction is a very valuable tonic and restorative medicine in lung-disease, fever and ague, loss of appetite and in convalescence from acute diseases. It is now accounted good in gravel and scrofula. Dose of the infusion, one to two wineglassfuls three times a day. The warm infusion, in large doses, is an emetic.

Description—Height three to four feet; has a sort of four-square stalk, branching limbs, whitish flowers, followed by long, slim tassels of seeds.

Where found—Usually in dry, hard soils, along roadsides and in fields.



Vervain.

VIRGINIA SNAKEROOT (*Aristolochia Serpentaria*).

Virginia Snakeroot.

Part used—The root.

As a nerve-stimulant it acts very promptly and is much used in depressed or exhausted conditions of the nervous system, especially in typhoid, typhus, marsh and child-bed fevers.

It is applicable in the latter stages of diphtheria, small-pox, scarlet-fever and pneumonia. It supports the sinking vital forces and rids the system of any offending matter by producing perspiration and a determination of blood to the surface.

A cold infusion is often employed with good effect in dyspepsia, croup, throat and kidney-complaints. A cold infusion is used for strengthening purposes and it may be drunk freely. Dose of the tincture, from half to a teaspoonful three times a day.

Description—Height one to two feet, stalk slender and jointed, of a dark-redish color, toward the ground; leaves oblong and about three inches long and one wide; flowers of a dull-brown color attached to short stems which proceed from the root, so that they usually lie close to the ground. The root is fibrous and of a dark-brown color. It may easily be known by its gingery, aromatic smell.

Where found—In timber and shady lands.

WATER-FENNEL SEED (*Oenanthe Phellandrium*).

This drug is of value in chronic affections of the air-passages, as asthma, inflammation of the larynx, bleeding from the lungs, catarrh, etc., and in periodical febrile diseases, dyspeptic affections and indolent ulcerations. It is highly recommended by some physicians in consumption, bronchitis and to quiet troublesome cough and render expectoration smaller and easier and produce sleep at night. Dose of the fluid extract, from eight to twelve drops three or four times a day. This is a new remedy and will have to be procured at drug-stores.

WATERMELON (*Cucurbita Citrullus*).

Part used—The seeds.

An infusion of watermelon-seed is very valuable in inflammation of the stomach and bowels, strangury, burning urine and gonorrhea. May be used freely.

WATER PLANTAIN (*Plantago Cordata*).

Part used—The root.

This is a good astringent, and is a very beneficial remedy in cholera, diarrhea, dysentery and all forms of

bowel-complaints. A poultice of the root is a very serviceable remedy for ulcers and sores. The decoction may be used freely.

Description—The leaves of this plant are from six to seven inches long, broad and smooth; flowers small, whitish, and attached to spikes six to eight inches long.

Where found—Usually on wet lands, and on the borders of streams.

WHITE WEED (*Chrysanthemum Leucathemum*).

Part used—The whole plant.

The cold decoction is good in asthma, night-sweats, hooping-cough, nervousness, and externally and internally in leucorrhea.

Dose, half to a teacupful three times a day. The decoction is applied locally to scald-head, ulcers and wounds.

Where found—This plant grows in almost all parts of the United States, and is very troublesome in the farming districts.

WHITE COHOSH (*Actæa Alba*).

Part used—The root.

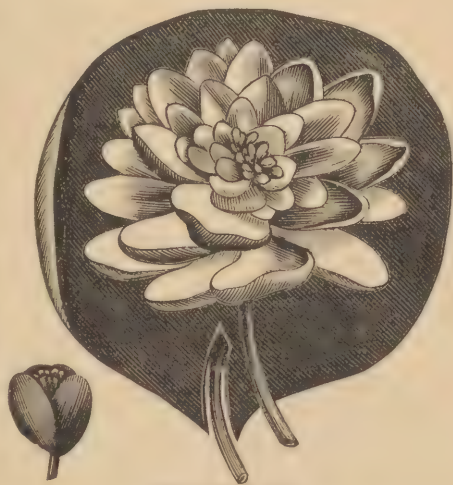
It is said to be a specific in controlling after-pains, and that for this purpose there is probably no remedy known that equals it. It has been suggested as an appropriate remedy in many diseased conditions of the womb, as in

neuralgia of this organ and painful menstruation, and also in leucorrhea from congestion of the womb. A strong tincture may be made by adding eight ounces of the root to one pint of alcohol (96°). Dose, fifteen drops, three times a day.

WHITE POND-LILY (*Nymphaea Dorata*).

Part used—The root.

The white pond-lily is efficaciously used in dysentery and diarrhea. Externally, it is employed with good effect as a poultice for boils, ulcers and tumors. The juice of the fresh root, mixed with lemon-juice, is excellent for



White Pond-Lily.

removing freckles, pimples and blotches from the face. The infusion is a good remedy for the cure of sore and ulcerated mouth, used in the form of a gargle. It is used in scrofula, diseases of the lungs and leucorrhea. For this latter affection it should be employed internally and by injection. There are few remedies that act more promptly than this in those old cases of leucorrhea, where there is chronic inflammation of the womb or abrasion of the vagina; and for ulceration of the womb

it has proved more efficacious than any other remedy, having completely cured the disease after all other available means had failed. It should be used locally, by injections of the infusion to the neck of the womb, and by taking it internally. Dose of the infusion or decoction, from one-half to a teacupful two or three times a day; of the fluid extract, ten to fifteen drops, morning and evening.

Description—This article grows in ponds, with large, round, dark-green leaves, floating on the water, and large white flowers. The root is often as thick as a man's arm.

WHITE SNAKE-ROOT (*Eupatorium Aromaticum*).

Part used—The root.

This plant is employed with good effect in pleurisy, gravel and lung-fever. It is used in typhoid and nervous fevers in cases where it is difficult to obtain sleep.

The decoction or tea may be used freely. It is often employed in combination with other sweating-agents.

Description—The root consists of a bunch of fibrous roots, of slightly bitterish taste and an agreeable aromatic smell. Height from one to two feet, rough stalk, branched top; leaves smooth, three or four inches long; flowers white and appearing late in the Summer.

WHITE-OAK (*Quercus Alba*).

Parts used—The bark and nuts.

A poultice of the bruised and powdered bark is a valu-

able application to check a tendency to gangrene and mortification. It is a valuable astringent, but care must be taken not to employ it in large doses, otherwise it will produce obstinate constipation.

It is very serviceable in diarrhea, dysentery, hemorrhages and night-sweats. It makes an excellent gargle in sore-throat and for falling of the palate. It has been used very successfully as an enema in falling of the womb, leucorrhea and piles. Dose of the decoction, from a fourth to half a teacupful four or five times a day. In sickly children and weakly persons, especially when the result of fever, and also in diarrhea, a weak decoction employed internally will be found of value and will produce the very best results.

It is said that a coffee made from the roasted acorns is an excellent remedy for all scrofulous affections.

WHITE-ASH, Old Man's Beard, Fringe-Tree (*Chionanthus Virginica*).

Part used—The bark of the root.

This is one of the best remedies for jaundice and is now regarded as an infallible remedy in this disease. It will be found to act very promptly in torpidity of the liver, and is also an admirable tonic for dyspepsia and general debility. It is highly praised for congestion of the womb. The unicorn-root is frequently combined with it for this purpose. Dose of the saturated tincture, thirty to sixty drops three times a day. This tincture may be procured at the drug-stores or made by adding four ounces of the plant to half a pint of alcohol (96°).

A bitters made by steeping it in spirits, taken two

or three times a day, has proved promptly successful in the cure of inflammatory rheumatism.

Description and where found—It grows in sandy soils in many sections of the country, but more abundantly in the Southern States, attaining a height of eight or ten feet. Its flowers grow in clusters, petals long and snow-white, like fringe. Hence it is called the fringe-tree.

J. A. Henning, M. D., says, "I can heartily recommend this remedy in jaundice and torpid liver as being very prompt in its action, reliable and safe.

"In functional jaundice it is nearly a specific, given in doses of the fluid extract of from fifteen to twenty drops every three to six hours, as it may be indicated in the case."

WILD GINGER, Colt's-Foot, Heart Snakeroot (*Asarum Canadense*).

Part used—The root.

This is useful to promote perspiration, and may be used for that purpose in all cases of colds, female obstructions, whooping-cough and fevers. It may be made in a tea and administered in small doses frequently repeated, as it is apt to nauseate the stomach in large ones. The best preparation is a cordial made with the tincture and syrup or molasses. Large doses of this herb and frequently repeated, are liable to produce abortion.

Description—The root of this plant is round, fleshy, jointed, fibers brown; leaves round, hairy, supported on long foot-stalks, somewhat resembling a colts's hoof, two from a root. Only one flower growing from the root

between the two foot-stalks which support the leaves, of a dark purple, darkest inside, and growing close to the ground.

Where found—Usually in moist soils and shady forests.

WHITE TURPENTINE (*Pinus Palustris*).

It is used in chronic rheumatism, piles, chronic catarrh, gleet, ulceration of the bowels, weak back, coughs and leucorrhea.

Externally it is very valuable as a strengthening plaster.

The dose is from two scruples to a drachm. Its properties are about the same as the other forms of turpentine.

Description—It is a concrete juice obtained from a species of pine, known as the yellow pitch-pine and is a gummy substance of a whitish color.

WHORTLEBERRY, Huckleberry (*Vaccinium Frondosum*).

This fruit is very useful, eaten with milk or sugar, in scurvy or dysentery. The berries and root, bruised and steeped in gin, have proved beneficial in dropsy and gravel. A decoction of the leaves or bark of the root is used in diarrhea, or as a local application to ulcers, sore mouth and throat.

Description—It is a shrub, growing four or five feet.

high, bearing a rich, luscious and nearly black berry.

Where found—It grows in low, moist lands and waste places.

WILD CHERRY (*Prunus Virginiana*).

Parts used—The bark of the tree and of the root.

It is generally employed in combination with other medicines. It is an excellent bitter-tonic, and very extensively used as a restorative bitters, and is valuable for disease of the lungs, coughs and jaundice. It is an astringent, and is often employed along with other astringents in bowel-diseases. It should not be boiled, as this process, to a great extent, destroys its virtues.

It is also used in scrofula and hectic fever. Dose of the infusion, from two tablespoonfuls to a wineglassful, three times a day; the same of the bitters; of the fluid extract, from one-half to two teaspoonfuls.

Where found—It is a tree, found in nearly all parts of the United States, and is generally well known.

WILD CARROT (*Daucus Carota*).

Parts used—The root and seeds.

They have been employed with success in kidney-disease, dropsy, inflammation of the bladder and in gravel. The seeds are the best; they should be bruised and steeped, care being taken not to boil them, as it will

destroy their virtue. Dose, half to two-thirds of a cupful three times a day.

Description—It resembles the garden-carrot; grows from two to three feet high, in waste places and along roadsides. The root has a sweetish, aromatic taste and is much more slender than the cultivated species. The seeds are of a dull-brown-color, flat on one side and convex on the other. They have a warm, bitterish taste, and aromatic smell.

WILD POTATO, Bird-weed, Man-in-the-ground
(*Convolvulus Panduratus*).

Part used—The root.

Equal parts of the root and skunk-cabbage, made into a syrup, are very effectively used in consumption, coughs and asthma. The decoction of it is used in gravel and dropsy.

The extract is a very valuable cathartic, and by many is regarded as equal to rhubarb. It is pectoral, diuretic and cathartic.

Dose of the infusion, about a wineglassful every three hours; of the tincture, two teaspoonfuls.

Description—The root is perennial and three inches or more in diameter, milky and full of fissures, and of a yellow color; stem, a climbing vine, of a purplish color and from four to ten feet long. The leaves are heart-shaped at the base, deep green on the upper and pale on the under sides; flowers resemble the morning-glory; grows in loose, sandy or poor soil.

**WILD INDIGO, Indigo-Broom, Indigo-Weed,
Prairie-Indigo, Rattle-Bush** (*Baptisia Tinctoria*).



Wild Indigo.

Parts used—The top and bark of the root.

An ointment made of the bark of the root with lard or cream, is one of the most powerful preventions of mortification known. It is valuable in ulcers of all descriptions, either applied in ointment, poultice, or used as a wash. It has been

used with success in scarlet and typhus fevers, and is one of the most valuable remedies known for the cure of typhoid fever. Dose of the decoction, a tablespoonful every two to four hours. If it purge or produce any disagreeable or unnatural condition of the system, omit its use for a time, or lessen the dose. A fomentation of the leaves will disperse (scatter) tumors of the breast.

In putrid sore-throat, a gargle composed of a strong infusion is generally very prompt in arresting the disease. And in threatened gangrene or mortification, in cuts or wounds, this medicine should be given internally at the same time of its external application, and it will always give prompt relief.

Dose of the fluid extract, from twenty to thirty drops,

every three hours; of the saturated tincture, thirty to sixty drops.

Description—This shrub grows from two to three feet in height, is of a yellowish-green color with black spots. The flowers are of a golden color, and are succeeded by a swelled, oblong pod of a bluish or blackish hue; this, with the plant, becomes quite black on dying. The leaves are small, somewhat heart-shaped, and broadest towards the outer end.

Where found—Mostly on hilly land and poor soil.

WILD YAM, Colic-Root (*Discorea Villosa*).

Part used—The root.

An infusion of the root of this herb is almost a sure cure in bilious-colic, promptly affording relief. Dose, half a teacupful of the decoction every half-hour. It is very valuable to allay nausea. Give four to six tablespoonfuls about every half-hour until relief is afforded; of the tincture, half to a teaspoonful. It is also used with good effect in spasms and dyspepsia. It is one of the best remedies for the different forms of colic. It should be given in doses of one or two wineglassfuls every half-hour or hour, until



Wild Yam.

relief is obtained. Dose of the tincture, half to a teaspoonful.

Description and where found—It is a sort of climbing vine, bearing small, yellowish-green flowers, and can generally be found in drug-stores.

WILD HOARHOUND (*Eupatorium Teucrifolium*).

Part used—The leaves.

In the sections of country where this plant grows it has obtained a high reputation as a remedy for fevers.

It is a valuable tonic, much used by the planters along the seaboard, and considered preferable to Peruvian bark. It is usually administered in the form of infusion; one ounce of the dried leaves infused in a quart of water may be taken daily in doses of half a teacupful every two hours.

Description and where found—This is an annual plant growing from one to two feet high, found in all parts of the country, particularly at the South.

This is a different species of plant from the common perennial hoarhound which grows along roadsides and near buildings.

WINTER-GREEN, Partridge-Berry, Ground-Holly, Mountain-Tea (*Pipsisserva Umbellata*).

Part used—The leaves.

This plant is much used by the Indians for rheumatism, and is a very prompt and efficient remedy in in-

flammation of the kidneys and bladder, and is held in high esteem by some physicians in dropsy, female obstructions and suppressed urine, diarrhea and dysentery.

The infusion of the leaves may be used freely in doses of from two to four tablespoonfuls, three times a day.

For dropsy, this remedy is perhaps unsurpassed, especially when in that following measles and scarlet fever. Prof. I. J. M. Goss says, "If I had to depend upon *one single* remedy in dropsy, I believe I would as soon risk this one as any other in the entire *materia medica*."

Dose of the fluid extract, from one to two teaspoonfuls.

This plant soon loses its virtue by age.

Description—This is a beautiful little evergreen shrub, found in all parts of the United States, in sandy regions, mountains and dry barrens.

WITCH-HAZEL, Spotted Alder, Snapping Hazel-nut (*Hamamelis Virginiana*).

Part used—The bark.

To check internal bleeding, such as from the lungs, stomach, etc., it is among the best articles known. Dose, half to two-thirds of a teacupful of a decoction of the leaves or bark, three times a day. In urgent cases it may be given more frequently.

A poultice of the bark will remove painful inflammation of the eyes. The decoction of it is seldom surpassed for the piles. It is used by enema in diarrhea, dysentery, leucorrhea and falling of the womb.

For sore throat and mouth it is employed as a gargle.

An ordinary dose is from one to two tablespoonfuls, taken three times a day.

Description—It is found growing in most of the States, along streams and hillsides, from ten to twenty feet high, with large leaves; flowers appear in the Fall or Winter, generally after the leaves have fallen off, the fruit ripening the next Autumn.

WOOD BETONY (*Betonica Officinalis*).

This is a new plant, but is proving to be a most remarkable remedy in the cure of chronic liver-complaint and inflammation of the bladder and kidneys, and in dropsy. Dr. F. Herring, in speaking of it in "New Preparations," says,

"I have used it in my own practice for more than ten years with the most flattering results, and am confident it will win merit wherever it is tried. I know of no other single remedy in the materia medica that produces such marked results in the treatment of chronic liver-affections as this.

"The usual dose of the fluid extract is from fifteen to thirty drops three or four times daily. The tincture is equally useful.

"It has proved very successful in chronic lung-affections, when there is a slimy mucous expectoration, accompanied by a tight cough.

"It is almost a specific for chronic inflammation of the bladder and kidneys and in all cases of bloody urine, and, as it contains no toxic properties, it can be used for children equally as well as for adults."

WORM-SEED, Jerusalem-Oak (*Chenopodium
Authelminticum*).

Parts used—Seeds and tops.

This is a reliable remedy for expelling worms. A strong infusion of the tops may be used, or the pulverized seeds, in doses of one teaspoonful mixed with molasses, taken three times a day. The oil of the plant is often employed, and is to be administered in doses of four to ten drops.

Description—Height from two to four feet, with yellowish-green flowers, which are oval and dotted on the under side.

The whole plant is distinguished by a peculiar disagreeable smell.

Where found—Usually on open grounds and waste places.



Worm-Seed.

WORMWOOD (*Artemisia Absinthium*).

Part used—The plant.

It is valuable as a fomentation in bruises, sprains, cuts, etc. The cold infusion is useful in intermittent

fever, worms, and to promote the appetite in dyspepsia. Dose, from one to four tablespoonfuls twice a day.

Description—It is a perennial plant and generally well known.

Where found—Cultivated in gardens for medical uses.

XANTHIUM SPINOSUM, Spiny Burreed, Burr-Thistle.



Xanthium spinosum.

This plant is considered by some European physicians as a specific for hydrophobia or the bite of rabid animals. In reference to its use the following is given from the *Therapeutic Journal*, published at Paris, by Dr. Grzymala:

“I have used the *Xanthium* now a number of years with the best success, and it has not yet been my lot to observe a *single* case

where it has disappointed me, although I have had occasion to administer it at least a hundred times to men as well as to animals bitten by rabid dogs and wolves. You must not be astonished at these figures which I assure you are rather below than above the reality. In

the country in which I live hydrophobia is very frequent, and for more than twenty years that I have used the medicine, ten cases per annum, on an average, will reasonably justify the number mentioned above."

Dose of the fluid extract, ten to twenty drops; of the infusion, half a teacupful three or four times a day.

YEAST (*Cerevisia Fermentum*).

This is a very excellent remedy in the treatment of typhoid and scarlet fever, and likewise in malignant sore throat and in all cases where there is a disposition to putridity. Dose, from one to two tablespoonfuls every three hours. When yeast is combined with charcoal and elm-bark and applied to dangerous ulcers, it will remove the tendency to mortification.

YARROW (*Achillea Millefolium*).

Part used—The whole herb.

It is used very extensively for hemorrhages, as bleeding of the lungs, spitting blood and bleeding-piles. It is also employed in excessive flow of urine, leucorrhea, chronic dysentery and chills and fever. Dose of the infusion, from one-half to a teacupful three times a day; of the oil, ten to fifteen drops; of the tincture, two to three teaspoonfuls.

Description—Height one to two feet, with a branch-

ing top, having a bitter, pungent taste and rather a pleasant aromatic odor.

Where found—Usually in open lands and along water-courses.

**YELLOW DOCK, Sour Dock, Narrow Dock,
Curled Dock** (*Rumex Crispus*).

Parts used—The root and seed.

A decoction is an elegant and effective preparation for the cure of some forms of dysentery. It is of great service and usually prompt in the cure of that unspeakably filthy disease of childhood, the itch. It is taken internally, and at the same time applied externally in an ointment. It has latterly been used with good success in dyspepsia and chronic bronchitis. Prof. E. M. Hale reports several cases of these diseases cured with it. Dose of the decoction or syrup, a wineglassful three times a day.

“The dry root pulverized and steeped, one teaspoonful to a teacupful of hot water, is excellent in all cutaneous affections and various other complaints, particularly ulcers and scurvy. In this last disease it is recommended very highly; one case successfully treated with nothing but the decoction of the dock-root, has fallen under our own notice. Bad ulcers and hard tumors have been removed by the application of the bruised root in poultice. A strong decoction in milk is recommended as an infallible remedy for bleeding at the stomach.”—
[*Dr. Howard.*]

Description—Height from two to three feet, with

slender, crisped-edged leaves and slender, yellowish roots. The leaves and stalks have a sourish taste.

Where found—In waste grounds and meadows and along fences.

**YELLOW-PARILLA, Sarsaparilla, Vine-Maple,
Moon-Seed** (*Menispermum Canadense*).

Part used—The root.

It is an efficacious remedy for scrofula, and cases are recorded in which the use of it alone has effected a complete cure. As a tonic restorative it is very valuable in convalescence from fever and ague.

It is good in constitutional syphilis, skin-diseases, rheumatism and dyspepsia. In large doses it is emetic and cathartic. It is used in mercurial diseases and chronic inflammation of the stomach and bowels. Dose of the decoction, from a half to a wineglassful three times a day; of the extract, two to four grains; of the tincture, one to two teaspoonfuls.

Description and where found—It is a climbing vine. It twines itself around bush and tree and grows from twelve to fifteen feet long, with smooth, dark-green leaves which are nearly round, and a long, yellow root which is very bitter. It is generally found in rich bottom-lands.

YELLOW POND-LILY (*Nuphar Lutea*).

For spermatorrhea, or an involuntary discharge of the seminal fluid, this is an effective remedy. It also con-

trols the excessive desire for sexual indulgence. Dose of the saturated tincture is from ten to fifteen drops, three times a day; of the fluid extract, five to ten drops. It will be found a valuable remedy in nymphomania. In the hands of some physicians it has proved a prompt remedy in morning-diarrhea.

YELLOW JESSAMINE (*Gelsemium Sempervirens*).



Yellow Jessamine.

Part used—The root.

It is an excellent remedy in St. Vitus's Dance, nervous headache, pneumonia, lock-jaw, leucorrhea, neuralgia, rheumatism, inflammation and determination of the blood to the brain, and used very extensively in bilious, intermittent and typhoid fevers. Its usual effects are cloud-

ed vision, double-sight-
edness, blindness, general relaxation, inability to open the eyes, and sometimes complete prostration; but these effects will soon pass away, leaving the patient refreshed and relieved or completely restored. In the administration of the medicine, as soon as the above effect is induced, no more should be given, at least until these

symptoms have ceased. The dose is from ten to fifteen drops, and even as high as thirty drops have been given in high grades of fever. Two or three doses are generally all that will be required if it is used in moderately large doses. It equalizes the circulation, produces perspiration and allays nervous excitement. It may be given at any stage of the disease, but it should be used with caution, and the administration of large doses should soon be suspended, as they are dangerous and have proved fatal. When it has been given in too large doses, stimulants will counteract its effects, as whisky or brandy or Turk-Island salt, the size of a pea, or aqua ammonia may be inhaled. The tincture of the root of this plant is the preparation usually employed and may be had at the drug-stores. It is an anti-spasmodic, and as such it is valuable in asthma, spasms of children and strictures of the urethra.

It has a specific action on the mucous tissues, which renders it a very valuable remedy in the inflammatory stage of gonorrhea.

The ordinary dose of the tincture is from five to ten drops every three hours. It should be made out of the green or the freshly dried bark, for it soon loses its strength.

The fluid extract is the form in which it is not unfrequently employed. Dose, three to eight drops, every one, two, three or four hours. It is poisonous and must be carefully given.

YELLOW POPLAR, White Poplar, Tulip Tree
(*Liriodendron Tulipifera*).

Parts used—Bark and twigs.

It is a very popular remedy in many places for worms. It is useful in dyspepsia and dysentery, and is ranked high as a tonic. Dose of the pulverized bark, half to a teaspoonful. It may be used in decoction or tincture. A tea made of the twigs and drunk freely, is invaluable in the cure of kidney-complaint. It is regarded as a certain and speedy remedy in chills and fever when administered in equal quantities with wild-cherry-tree bark and dogwood-bark, made into a decoction. Dose, a wine-glassful, three times a day, before meals. This decoction is invaluable as a restorative medicine for the general health, or the decoction or tea of the bark of the poplar alone, is scarcely excelled for all debilitated conditions of the system.

Description—It is usually a large, magnificent tree, and used extensively for lumber.

YERBA BUENA (*Micromeria Douglassii*—*Benth.*).

This is of recent introduction from California, where it is employed very extensively to expel worms, for fevers and in female diseases.

Dose of the fluid extract, from thirty drops to one and a half teaspoonfuls, twice a day. A tea of the herb may be given three times a day.

YERBA SANTA (*Erioduction Californicum*).

This is comparatively a new, yet in many sections of the country it has been a leading remedy for piles, cough, laryngitis and bronchitis. A physician, writing from Texas in regard to it, observes, "I can verify the statements concerning the yerba santa in the cure of piles, as I have cured three cases that were given up as incurable and they *are cured*."

It has been employed in asthma and kidney affections with excellent effect, and for chronic coughs many who have employed it pronounce it "unsurpassed." Some recommend that it be combined with *grindelia robusta* in the form of a syrup as making it more efficient. Dose of the fluid extract is from ten drops to a teaspoonful three times a day. A tea of the leaves may be drunk freely three or four times a day.

The term "Yerba Santa" is one given by the Spanish, which signifies "saint herb" or "holy herb." It is a native of California. The plant is somewhat branching and attains a height of from two to four feet. The leaves are petiolate, finely serrated and oblong, the upper surface presenting the darkest and richest green color and so finely varnished with the gum-resin it contains as to



Yerba Santa.

appear and glisten like a mirror, while the under-side is tortuously veined and presents a silvery appearance. The leaf is the part used in medicine. It has a sweet, gummy taste something like tolu.

Dose of the fluid extract, from fifteen drops to a teaspoonful; of the solid extract, three to six grains; of the sugar-coated pills, one to two pills. These preparations may usually be found at drug-stores.

YERBA REUMA.



Yerba Reuma.

This new remedy is excelling all others in general use, in the treatment of gonorrhea, catarrh and leucorrhea. This is a remedy from the Pacific Coast, but can now be generally had at all drug-stores. Prof. Bundy, of the California Medical College, writes, "It is surpassing all other remedies for catarrh, leucorrhea and gonorrhea."

See the treatment of these diseases respectively in another part of this volume, for the proper mode of using it. It is also employed in the treatment of diarrhea, dysentery and sore-eyes. It is especially applicable for gleet and shingles. Parke, Davis & Co., of Detroit, prepare sugar-coated pills (and likewise the extracts) of this

plant, which are very pleasant to take. These preparations can now usually be had at drug-stores, and are regarded by physicians and druggists as a purer article than those prepared by other parties.

HOW TO COLLECT AND PREPARE PLANTS.

The different parts of a plant are to be gathered when their peculiar juices are most abundant in them.

Barks, whether of the roots, trunk or branches, must be gathered in Autumn or early in the Spring, when they peel off most easily. The most active barks are generally from young trees.

After shaving off the outer portion of the bark, cut thinly and place in a good position in the shade to dry.

Roots—After the leaves are dead in the Fall, or better in the Spring before the sap rises, are the times to collect roots.

Seeds and Flowers—These should be gathered and dried in the shade, only after they are fully ripe.

Medicinal plants—They should be taken while in blossom, and dried in the shade ; but they may be gathered at any time before frost comes.

Leaves should be collected while the plant is in flower, spread thinly on the floor of a room through which there is a constant current of air, and dried as quickly as possible.

Fruits, Berries, etc., may be spread thinly upon the floor, or hung up in bunches to dry.

All vegetable medicines should be kept in a dry and dark place, as, for instance, in tin cannisters, which are

superior to any kind of vessel for powders. Roots are best kept in covered boxes. Tinctures, syrups, etc., are best kept in bottles, whose outsides are painted black in order to protect the articles from the action of light.

HOW TO PREPARE HERBS FOR USE.

An infusion or decoction is to be made by adding one ounce of the plant, bruised, to a pint of water; the tincture, by adding an ounce of the powdered article to a pint of alcohol or brandy, and allowing it to stand for twelve days, frequently shaking; and the essence, by dissolving one ounce of an essential oil in a pint of alcohol.

Teas, otherwise called infusions, may be made by putting one handful of the herb into one pint of boiling water, and allowing it to stand for an hour.

Decoctions may be made in the same way, but all the strength should be extracted by continuous boiling.

DIVISION THIRD.

MISCELLANEOUS.

RECIPES, ETC., ETC.

Asthma.

This disease has often been cured by the use of chestnut-leaves. The dry leaves are used after they have become ripe in Autumn, and a teacupful of the tea made from these is to be drunk at breakfast each morning.

ANOTHER—A remedy which is recommended as affording great relief in asthma is to add ten ounces of pure honey to one of castor-oil. Mix. Dose, one teaspoonful night and morning.

To Relieve Pain in the Breast.

Drink freely of a tea of the buds or twigs of sycamore. If the tincture is used, a teaspoonful may be taken, two or three times a day.

Bruises and Sprains.

ARNICA AND MILK REMEDY—Bathe the affected parts with hot milk and arnica, in the proportion of nine parts of the former to one of

the latter, and in severe cases, immerse the whole limb in the solution. This is a new combination, but it is meeting with remarkable success in the treatment of these difficulties.

Acidity of the Stomach and Heartburn.

Take the inside portion of the gizzards of chickens, clean them carefully with a knife, but do not wash them; then dry, powder and bottle for use. Dose a half teaspoonful after each meal. When prepared and used as directed it will effect a timely cure of these difficulties.

Bee-Stings.

Wet indigo and apply. It will at once cure stings of any insects.

Bronchitis.

Equal parts of sage and mullein leaves give much relief in this disease and have in some cases effected a permanent cure. The dried leaves are to be smoked.

Burns, Scalds and Wounds.

The following is most excellent for burns, scalds, cuts, old sores, chapped hands, piles, pimples, etc: Linseed oil, eight ounces; white beeswax, two and a half ounces; carbolic acid (Culvert's), three drachms; alcohol, three drachms; mutton-tallow, half-ounce. Boil the linseed-oil fifteen or twenty minutes and then add the beeswax and mutton-tallow. Put the carbolic acid and alcohol together in a bottle, and add to the others drop by drop, while hot, in order that it may not run over. When all are added, stir until cold. Apply by means of a cloth, three or four times a day. It is also far superior to glycerine to keep the hands soft and smooth.

ANOTHER—Apply immediately a thick covering of wool to the burnt part; in the course of half an hour very little pain will be felt and scarcely any blister will remain. As this remedy is so simple, no housekeeper should be without loose wool at hand, in case of an accident. This remedy was discovered by the child of a wool-comber having been dreadfully scalded; its mother laid it in a basket of newly carded wool, whilst she ran for a doctor; when she returned, she found the child fast asleep amongst the wool and when it awoke the excessive pain had subsided. We have frequently tried it and invariably with success.—*Hall.*

ANOTHER—Apply to a burn, bruise, or cut, the moist surface of the inside coating of the shell of a raw egg; it will adhere of itself and heal without pain.

Canker of the Mouth.

When the ulceration is rapidly spreading, the following should be used: To a teacupful of soft water add five drops of muriatic acid, mix well and use as a wash. The same should be given internally at the same time, in teaspoonful doses, once in four hours.

ANOTHER—An excellent remedy to use as a wash, when the ulceration is external, is carbolic acid and water, prepared by adding about ten drops of the acid to a tumbler of water and stir well together. Apply several times a day.

Chilblains.

Cut an onion in thick slices and with these rub the chilblains thoroughly for two or three nights, before a good fire and they will soon disappear.

For Coughs and Colds.

To two quarts of soft water add one-half teaspoonful of flaxseed, three ounces of licorice, three of raisins, each cut in two parts. Boil very slowly until reduced to near a quart. Then add two tablespoonfuls of lemon-juice (if it is not at hand use vinegar) and sweeten to the taste. Dose, two tablespoonfuls every three or four hours and double that amount on retiring at night. This cures bad colds in a day or two. It has cured many colds in a fortnight that had begun to exhibit signs of consumption.

Dr. Randell gives the following as a favorite remedy for colds: Take the common white turnip, cut into thin slices and sprinkle powdered rock-candy between them, and when dissolved take from a

half to a tablespoonful four or five times a day.

ANOTHER—To one teacupful of white sugar, add the same amount of *rain-water* and a small-sized onion cut in pieces. Boil the whole together down to a syrup. Dose from one-fourth to one-third teaspoonful, after each coughing-spell; and in a day or two your cough will be cured.

For Chapped Hands, Lips or Wounds.

INVALUABLE OINTMENT—Obtain a pint of sweet cream, let it simmer over the fire or on the side till it resembles butter and forms a thick, oily substance, which may be used as ointment for fresh or old wounds, cracked lips or hands.

Chapping.

Take sub-nitrate of bismuth two drachms and double the quantity of fresh lard. Mix and apply to the parts and a cure will very rapidly be effected.

Cracked Lips and Tongue in Fever.

Add one drop of the tincture of arsenic to a tablespoonful of water. Dose, one teaspoonful every two hours, until the cracks disappear or the scabs come off. This is a prompt remedy for the above difficulties and also mitigates the fever itself.

Colic.

An injection of warm water will usually afford speedy relief, in the case of either an infant or an adult.

Chills and Fevers.

A strong tea of garden strawberry roots drunk freely will not unfrequently effectually cure the chills and fever.

Cobweb in Chills and Fever.

Take sufficient cobweb to make a common-sized pill, cut it fine with a pair of scissors and mix it in a tablespoonful of molasses and use at one dose. Take a dose every hour for two or three hours and repeat each day before the attack. If preferred the cobweb may be made into pills with mucilage of starch or gum-Arabic. This remedy has cured many persons of the chills.

Membranous Croup.

Give from five to eight drops of the fluid extract of *Jaborandi* every half-hour. This is a sovereign remedy for this form of croup. Dr. Dover regards it as almost a specific.

Cancers.

When cancer of the breast is suspected, the patient should at once commence the use of the tincture of poke-root in five-drop doses three times a day and at the same time apply it to the tumor by means of cloths saturated with it. This treatment will generally remove the tumor.

To Cure Corns.

A single drop of the sesquipedal chloride of iron, put on a corn between the toes once a day with a camel's hair brush, will effect a marvelous cure.

Consumption.

A REMEDY FROM THE LONE STAR STATE—Tar, three tablespoonfuls; strained honey, three tablespoonfuls; yolks of three fresh eggs; wine, one-half pint. Dose, one tablespoonful three times a day, before meals. Dr. East, a distinguished physician of that State—Texas—says, “It is superior to all other remedies of which I have any knowledge in the treatment of this disease.”

MULLEIN A CURE FOR CONSUMPTION—Make a strong decoction of mullein, sweeten with coffee-sugar and drink freely two or three times a day. Continue its use three to six months. Young or old plants either may be used when dried in the shade. A writer in speaking of it says, “It has been known to cure a number of cases after hemorrhage of the lungs had set in and the hectic flush was on the cheek.”

For Dyspepsia.

Dr. A. L. Clark gives the following as an efficacious remedy: Boil down a tea of smart-weed into a thick extract, make into pills the size of a pea. Dose, one pill immediately after each meal.

ANOTHER—Four tablespoonfuls of lime-water. Mix with a cup of milk. To be taken once a day. This is very excellent in some forms of dyspepsia.

Syrup for the Dysentery,

(Which, it is said, has never failed in thirty years).

Rhubarb and wild-cherry bark, a handful; four tablespoonfuls of sugar; simmer awhile. Dose, a

tablespoonful to an adult, every fifteen minutes, until the pain ceases. Make it fresh every day. The above is taken from a work called the “Indian Physician” and is pronounced infallible in dysentery.

Diphtheria.

Tincture of iron - 3 teaspoonfuls.

Chlorate of potash 1 “

Syrup - - - - 2 tablespoonfuls.

Water - - - - 6 “

Dose—One teaspoonful every two or three hours. No water is to be used after it. This is a very popular remedy with some physicians.

To Remove Dandruff.

A most admirable remedy for this purpose is to take one-fourth of a pound of hemlock-bark, steep in one quart of water to one pint and wash the head in it three times a week.

Salt and Vinegar for Diarrhea.

Take good cider-vinegar, one-fourth tumblerful; common table-salt, one tablespoonful; hot water enough to fill the tumbler. When the salt is dissolved, give as warm as can be taken, from half a teaspoonful to a tablespoonful, according to age, every five or ten minutes, until the whole is taken. If it should be vomited up, repeat the quantity and in from six to ten hours, should the disease not be checked, repeat the dose. It is a splendid remedy.

Epileptic Fits.

As soon as there are any premonitory symptoms give a teaspoonful

of salt in a little water and repeat in fifteen or twenty minutes. It prevents or shortens the fit.

ANOTHER—They have often been cured by the simple use of the tincture of asafetida, given in half-teaspoonful doses twice a day, when the first symptoms of an attack are discovered.

For the Removal of Freckles.

Lemon-juice mixed with water is a very good remedy for the removal of freckles. Mix and put in a well-corked bottle. Wash the hands and face with this several times a day (letting it stay on several minutes before drying with the towel). This preparation is highly recommended by the celebrated Dr. Wilson, of London.

Drink in Fevers.

Take four ounces of raisins, four ounces of tamarinds, boil in three and a half quarts of water, quite slowly, for five or ten minutes; strain and add one-fourth pound white sugar. This is excellent as a drink in all cases of fever. Take wineglass doses as often as the patient may wish.

Fever and Ague.

In some parts of the Southern States cotton-seeds are reputed an excellent remedy for some forms of fever and ague, by boiling one pint of the seeds in three pints of water down to one pint.

One-fourth to one-half of this to be drunk warm one hour before the expected return of the chill. This is generally sufficient, but if not it is to be repeated.

For the Gravel.

Take of the root of Jacob's ladder two ounces. Make into a decoction to be taken as a common drink. Said to be infallible for the gravel.

Sick Headache.

An eminent medical author says, "The most efficient preparation I ever used is composed of one teaspoonful of prepared charcoal, pure baking-powder, one-half teaspoonful and twenty drops of essence of peppermint; mix well together and take at one dose. To be repeated every thirty minutes until relief is obtained. The patient should be in a dark room on his back. Bathe the head with equal parts of warm vinegar, spirits and rain-water.

Nervous Headache.

Take from one-half to a teaspoonful of firwein three times a day. This is a new remedy and those who have employed it praise it highly.

ANOTHER—One drachm of oil of peppermint; one drachm of sulphuric ether; mix; apply to the head with a piece of cloth or sponge. This will give immediate relief in many instances.

For Hooping Cough.

Dr. Cook, of Philadelphia, recommends the black cohosh as a very valuable remedy in rendering the cough less violent and bringing the disease to a more speedy termination. The dose of the tincture for a child one year old is five to eight drops four or five times a day; for a child two to three years old, from

ten to fifteen drops in a little sweetened water.

ANOTHER—One pint of white-vinegar, one pound of rock-candy, two fresh eggs. Mix thoroughly. Dose, a teaspoonful four or five times a day. This will relieve hooping cough to such an extent that it will not be very troublesome.

ANOTHER—Dr. Ira Warren, of Boston, gives the following: A solution of nitric acid in water as strong as lemon-juice, sweetened, is a very valuable remedy, breaking up the disease in two or three weeks. The child may drink it freely a little further reduced with water.

PETROLEUM OR MECCA-OIL FOR HOOPING COUGH—This comes very highly recommended for the relief of this disease. A dose is from two to three drops three times a day.

Poison Vine (*Rhus Tox*).

Add one teaspoonful of grindelia robusta to half a glass of water; freely apply it to the affected part with a cloth or sponge. Dr. Funkhouser says in cases in which he has employed it, it acted like a charm, promptly and satisfactorily.

Incontinence of Urine.

For this difficulty in children give one or two drops of the tincture of belladonna in sweetened water every night until relieved.

A Cure for Suppressed Menses.

Make a strong tea of smart-weed and let the patient drink freely of it. Put the feet in hot mustard-

water, for fifteen to thirty minutes. It is best done at bed-time.

ANOTHER—A strong tea of the hair-capped moss (known as birds' wheat) will nearly always accomplish the same purpose and that speedily. It should be drunk while hot and used freely.

To Check the Flow of Milk.

Take of powdered camphor-gum and powdered skunk-cabbage root, each one ounce; fresh lard, two ounces. Mix and spread on thick, brown paper and keep applied to the breast. This is the best remedy we have ever used for this purpose and it can be relied upon.

Kidney-Disease.

Use asparagus as a diet. This is said to be very effective for the removal of this disease.

Cure for Neuralgia.

Horse-radish root, bruised and bound upon the face or other parts where the pain is located, has been found very valuable and will give relief in a great many cases.

ANOTHER—Take equal parts of oil of peppermint and sulphuric ether and apply to the parts with a soft cloth or sponge. This will often relieve the most excruciating pain.

Cure for Pin or Thread Worm.

Frequent injections of lime-water are reported entirely effective for this purpose.

Cure for Poison-Oak or Poison-Vine.

Wash the parts four times a day with lime-water, and if the vesicles are broken apply sweet spirits of nitre and repeat next day.

ANOTHER—Poisoning from these vines may be cured by bathing the parts with a solution of either borax or copperas.

Piles.

Take the garden celendine stew in fresh lard and make an ointment of it. Apply twice a day. This, it is said, *will cure when all other remedies fail.*

Rheumatism.

Take two quarts of sliced potatoes and add sufficient water to cover them; boil them until soft and then pour off the liquid and bathe the affected parts with it as hot as can be borne, night and morning. This simple remedy has been known to cure the most obstinate cases of rheumatism. Oftentimes relief is obtained after a few applications.

ANOTHER—Simmer together for a short time *bran* and *vinegar* until a poultice of proper consistence is formed and apply tepid. I have known this simple mixture afford relief when all other applications have proved useless.

This treatment will be found very effectual in curing inflammatory rheumatism; although the disease under the best treatment will be sometimes protracted, at other times it is cured very soon.

ANOTHER—Dr. Hall says, "Oil of

mustard well rubbed into the skin of the part twice a day is one of the most efficient remedies known."

Chronic Rheumatism.

ARNICA AND MILK REMEDY—Bathe the affected parts with hot milk and arnica in the proportion of nine parts of the former to one of the latter; use two or three times a day. This is a new combination but is meeting with remarkable success in the cure of rheumatism.

Sour Stomach.

A sufferer from want of appetite and sour stomach can be greatly benefited by leaving all medicines alone and for a time subsisting entirely on milk and lime-water—a tablespoonful of lime-water to a tumbler of milk. If this disagrees in any way, increase the quantity of lime-water.

Sprains.

Take a large spoonful of honey, the same quantity of salt, and the white of an egg; beat the whole up incessantly for two hours, then let it stand for an hour and anoint the place sprained with the oil which will be produced from the mixture. This is said to have enabled persons with sprained ankles to walk in twenty-four hours entirely free from pain.—[*King*.]

To Relieve Pain in the Side.

Take a fresh cabbage-leaf, warm and bind it to the side; let it remain ten or twelve hours, when the pain will generally be removed; but if not, repeat the operation.

St. Vitus's Dance.

Take black cohosh, one-half ounce; valerian, one and a half ounce; water, four tablespoonfuls. Dose, one teaspoonful, every four hours. If perseveringly used, it will afford permanent relief to almost any case.

Wash for Sore Mouth.

Powdered borax, one teaspoonful; glycerine, ten teaspoonfuls; water, one-half teacupful. This is excellent in sore and cracked lips and tongue, in typhoid and other fevers, in fissures, cracked or chapped hands, etc., and will make the roughest skin smooth and soft.

Sty on the Eye.

Apply two or three drops of harlem-oil on the lid which is affected and carefully rub it along the edge and over the lid and it will effectually scatter the sty, unless very far advanced. This oil is likewise good for weak eyes.

Scrofula.

A very excellent cure for this disease is a tea of burdock-leaves. It is to be drunk freely three times a day. One author claims to have cured more than a hundred cases with it.

ANOTHER—A coffee made of roasted acorns is an excellent remedy in all scrofulous affections.—*Prof. J. H. Bundy, of the California Medical College.*

ANOTHER—A great professional remedy in the treatment of this disease is the acetate of potash, one scruple to the ounce of water. Dose, fifteen drops, three times a day.

Sick-Headache.

When there is headache, with constipation, giddiness, etc., add five drops of the tincture of nuxvomica to half a tumbler of water and after stirring well together, take a dessertspoonful every half-hour or hour, until the pain is removed. When the headache is accompanied with flushed face and heat of eyes, put three drops of the tincture of belladonna in a teacupful of water; mix well together and take as the above remedy.

For Sore Eyes.

A strong infusion of chick-weed (knot-grass) makes an excellent eye-water. The eyes should be bathed with it and a drop or two at a time put into them.

ANOTHER—White sugar, one teaspoonful; common salt, one-half teaspoonful; the shell of one egg; water, one-fourth teacupful. Powder the egg-shell and boil in the water for five minutes; add one or two more tablespoonfuls of water; after boiling strain and add the sugar and salt and it is ready for use. For chronic sore eyes two or three drops put into them three or four times a day surpasses most remedies in use.

To Remove Scurf from the Heads of Infants.

A simple and effectual remedy for removing scurf is to add a lump of unslaked lime the size of a walnut to a pint of water; let it stand all night, then pour the water off from the sediment; add one gill of the best vinegar and wash the head with the mixture.

Sore Throat.

One of the best gargles for common sore throat and to loosen phlegm is a teaspoonful each of alum, salt and tincture of Cayenne pepper. Use every two or three hours.

ANOTHER—YEAST GARGLE. Take yeast, a wineglassful; milk, a gill; sweeten with molasses. Excellent for sore throat.

Poultice for Sore Throat.

Take of May-weed or the flowers a suitable quantity, bruise to a soft pulp and boil for a short time in a small quantity of water; then stir in corn-meal until of a suitable consistence for a poultice, spread on thick cloth and apply to the neck, renewing when it becomes dry. This is recommended as being highly useful for the sore throat of scarlet fever and for all swellings and inflammations.

Putrid Sore Throat.

Take of the tincture of belladonna five drops, in a teacupful of water. Stir well. Of this, give from one to two teaspoonfuls every one or two hours, according to age and the severity of the disease. Prof. Hempel and other eminent physicians regard this as a specific in this disease.

Sores and Bruises and Neuralgia.

The following is a favorite remedy for these difficulties: Raisin-stems, one ounce; jimson leaves (green or

dry), one ounce; tobacco leaves, one ounce; fresh lard, three-fourths of a pound. After bruising the stems, put all into a vessel and simmer three hours. Strain. Cut a lump of beeswax double the size of a nutmeg into fine pieces; add to the above and heat slowly until melted, stirring until cool; at which time add two teaspoonfuls of spirits of turpentine and stir the whole until it is cool, when it is ready for use. This is superior to "*Trask's Celebrated Magic Ointment*" and will speedily remove soreness and pain and tend to heal rapidly. For neuralgia it should be applied over the painful part. A California physician says, "in my hands it has acted like a charm in relieving the pain."

Cure for Salt-Rheum or Tetter.

Take half a pint of sweet cream, tie it up tightly in a thick piece of linen cloth and bury it one and a half or two feet deep in the ground. Let it remain there two days, when it will be found as hard as butter. Apply this to the affected parts twice a day. This is said to be an effectual cure for this affection.

ANOTHER—A strong tincture of blood-root, made in vinegar, is sufficient to cure almost any case of tetter, as well as ring-worm. Apply twice daily. The yellow-dock root similarly prepared and used is said to be equally as effectual as the blood-root.

Cure for Toothache.

Powdered alum will not only relieve the toothache, but prevent the decay of the tooth, by putting

a small portion in the tooth and covering it with cotton.

ANOTHER—Salaratus put in and around the tooth will often relieve this difficulty.

ANOTHER—The tincture of aconite is another very excellent remedy, applied on cotton, or equal parts of ammonia and water are likewise efficacious.

For Tape-Worm.

Kemela, two drachms; simple syrup, one tablespoonful. Mix and take at a dose, after fasting one day. Follow this in four or five hours with two tablespoonfuls of castor oil and one teaspoonful of spirits of turpentine. One dose of this medicine is usually sufficient to expel the tape worm.

Ulcers.

A strong decoction of walnut leaves in which a small portion of sugar has been dissolved makes a valuable wash for cleansing and healing ulcers.

ANOTHER—Permanganate of potash, one teaspoonful; warm water, one-half pint. This is one of the best lotions ever applied to foul ulcers or sores.

ANOTHER—Take of nitric acid half an ounce and a piece of zinc about an inch square. Cut this into small pieces and put them in the acid and when they are dissolved add a teaspoonful of lard. Mix and apply on a cloth to the ulcer once a day. This will cleanse ulcers of foul matter and cause them to heal rapidly.

Sleeplessness.

Hearty or late suppers frequently cause disturbed sleep and sometimes sleeplessness. The use of coffee and tea, late rising in the morning, strong mental emotions, reading, writing and mental application during the evening are among the chief causes of this derangement.

TREATMENT—If sleeplessness or disturbed sleep arises either from eating too much at supper or from late suppers let the patient avoid the former and abandon forever the latter.

Sponging the body with cold water before getting into bed will often procure sleep. Take care that the bedroom is not too hot, take plenty of out-door exercise and do not study late.

Venereal Diseases.

Drink freely four or five times a day, of a tea made, in the summer, of the tops and leaves and in the winter of the root, of tar-weed (*grindelia squarosa*). This has cured the most inveterate cases of this disease where the parties have been unable to perform any labor for months in succession. This tea should be sweetened with honey and stand for three or four days until it ferments before it is drunk. Drink large quantities of it.

Water-Brash.

Charcoal, one ounce; lactopeptine, one ounce; guarana, one ounce. Dose, one-half teaspoonful three times a day. This has proved effectual in the most obstinate cases of this difficulty, when all other means had failed.

To Stop Vomiting.

Take salt, two ounces; Cayenne, one ounce; vinegar, one quart. Mix. Dose, a tablespoonful whenever there is great nausea or vomiting. A writer says that this compound is the best remedy to stop vomiting that he had ever used.

ANOTHER—A tablespoonful of a strong tea made of cloves, given every ten minutes will check vomiting.

ANOTHER—From a half to a teaspoonful of pepper-sauce diluted with water will generally produce the same effect.

ANOTHER—Strong coffee without milk or sugar will not unfrequently check vomiting.

Salve.

Linseed oil, beeswax, rosin and mutton-tallow, equal parts and heat only sufficient to mix or melt them together. This forms an excellent salve for all purposes where a salve is needed.

Black or Healing Salve.

Common resin, one-half ounce; beeswax, one-half ounce; Venice turpentine, one-quarter ounce; olive-oil, one pint. Put all in a vessel and raise almost to a boiling point. Then add slowly two and one-half ounces of red lead, while on the fire. Be careful not to burn. Boil very slowly until it becomes of a dark-brown color. After removing, when it becomes nearly cold, add one teaspoonful of camphor. This is a superior article for all healing purposes, especially for scalds, fistulous ulcers, scrofulous

sores, etc. It should be renewed daily.

To Beautify the Hands.

To a wineglass of glycerine add the yolk of two eggs. Mix very thoroughly or rub in a mortar and bottle for use. No better preparation can be had for the hands.

To Prevent Summer-Complaint in Children.

Let them drink freely of slippery-elm-bark water. A little of the powdered bark boiled in milk is an excellent diet for children having summer-complaint.

To Soften the Skin and Improve the Complexion.

Mix sulphur in a little milk and after standing an hour or two if the milk (without disturbing the sulphur) be rubbed into the skin, it will keep it soft and make the complexion clear. It is to be used before washing. In warm weather the amount necessary to be used must be prepared each evening, otherwise it will become putrid.

Excessive Flow of Blood to the Head.

Add thirty drops of the fluid extract of gelsemium (yellow jessamine) to one-half a teacupful of water and give one teaspoonful of this every half-hour until relieved.

Seidlitz Powder.

Bicarbonate of soda, 40 grains; Rochelle salts, 120 grains. Mix and take at a dose in one-half tumbler of water.

Salt-water Bath.

Salt, one-half pound; water, one gallon. Mix. Use as a bath every morning. This should be used tepid or nearly so.

Neutralizing Mixture.

Take of rhubarb (pulverized), two scruples; salaratus (pulverized), two scruples; peppermint-plant (pulverized), two scruples; add half a pint of boiling water and sweeten with loaf sugar. Dose, one teaspoonful every one to two hours, according to the symptoms. This is one among the most valuable preparations in use for cholera-infantum, cholera, cholera-morbus, diarrhea, dysentery, etc. Its operation and action appear to be specific or almost infallible. This is the celebrated "Neutralizing Mixture."

For Vomiting.

A few swallows of warm water, sweetened with sugar, will often allay this difficulty. Remedies for vomiting should always be taken warm—as coffee, a tea of peach leaves, etc.

For Singers and Public Speakers.

Many have found tar-water to cleanse and open the lungs and thus impart ease and freedom in

speaking. A quart of tar is to be stirred into four times as much water, or it may be weaker, as the stomach can bear it. Of this take about a gill, mid-way between meals, four times a day. The best season in which to commence taking this medicine is the Spring. Continue for two weeks or longer, if needed.

Intermittent Fever.

Among the simple remedies that have been found successful in the treatment of ague, charcoal is to be mentioned. It is said to have been especially successful in those cases in which the digestive organs have been more particularly affected and known by symptoms of nausea, vomiting, hiccough, flatulence, diarrhea, dysentery, etc. The remedy has been given in doses of one-fourth to a half teaspoonful two or three times a day, along with arrow-root or some other substance by which it could be more readily swallowed.

For Cleansing Cloth.

A writer gives the following: "Instead of using ammonia and alcohol for cleansing coat-collars and other soiled garments, we buy Aquila or Spanish bark, sold by our grocers and druggists. A piece eight inches long by four wide will cleanse a very dirty coat perfectly. Tear the bark into very small pieces, pour over it a quart of hot water and when it is nearly cold sponge the coat, beginning at the collar; hang it in the wind till dry and if any spots remain go over it again with the bark solution; then dry and press it. Silks, poplins, de-

laines of delicate tints, can be perfectly cleansed without affecting their color. Woolen goods should be immersed in the water, rubbed gently, rinsed in warm, soft water and ironed while damp.

A New Cure for Warts.

A medical writer recommends kerosene-oil. He says, "When I began its use three months since, I had thirty-seven on my hands, some very large and painful. Where they were covered with hard cuticle I carefully pared it off and saturated them daily, using a camel's hair pencil and common coal-oil. They began to disappear by absorption in about two weeks and are now entirely gone."

ANOTHER—Common salt and alum in equal quantities burned to a powder and bound on warts will remove them. The juice of garden celandine (touch-me-not) applied twice a day, is said to be effectual for removing warts.

Wounds.

SOMETHING WORTH KNOWING—Smoke the wound, or any bruise or wound that is inflamed, with burning wool or woolen cloth. Twenty minutes in the smoke of wool will take the pain out of the worst wound, repeated two or three times it will allay the worst cases of inflammation arising from a wound. It has saved many lives and much pain and is worthy of being printed in letters of gold and put in every home.

White Swellings.

In white swellings and other painful diseases the application of heat

in the form of steaming is attended with the happiest effects and, indeed, is often a complete and sovereign remedy. Cases have been relieved and cured by it which had baffled the skill of our most noted physicians. This principle properly applied will mitigate the acute symptoms of white swellings, and similar complaints in fifteen or twenty minutes, and by its repeated application will wholly remove the horrid sufferings of the patient.

Healing Salve.

One-half pound beeswax, one-half pound salt butter, one-quarter pound turpentine, six ounces of balsam of fir. Simmer slowly for one-half hour, when it is ready for use. Dr. M. Curtiss says he has used this preparation for sores, wounds, burns, etc., for thirty years and has never found anything to surpass it.

To Prevent Hair Falling Out.

Make a strong decoction of white-oak bark in water and use it freely. It is best to make but little at a time and have it fresh at least once a fortnight.

Cravats

Should not be worn so tight as to compress the many large vessels of the neck, which connect with the brain, and they should never, under any circumstances, be worn during the night.

How to Keep Sick-Rooms Cool.

It consists in opening the win-

shows wide and covering the openings with cloths steeped in water. It is well known how largely water in passing from the liquid to the gaseous state, absorbs caloric. This absorption lowers the temperature of the room from five to six degrees in a few minutes, and the humidity diffused in the air causes the heat to be more readily endured. By this system patients, even in the hottest time in the summer, find themselves in a perfectly fresh atmosphere.

Japanese Cleansing Cream for Clothing.

Castile soap, three ounces; ammonia, four ounces; ether, one ounce; spirits of wine, one ounce; glycerine, one ounce. Cut the soap fine and dissolve in one quart of water, then add all the other ingredients and bottle for use. This preparation will thoroughly clean and renovate kid gloves and the finest articles of wearing apparel and brighten the colors without the least injury to their texture, removing grease from clothing, etc.

To Keep Flies Away.

No fly it is said will enter a room where wreaths of walnut leaves are hung. The experiment is worth trying.

Mosquito-Bites.

As a remedy for mosquito-bites keep a vial of glycerine at hand and apply freely to the bites. It will relieve the irritation and swelling at once. One application is generally sufficient.

To Fill a Decayed Tooth.

When a tooth is too much decayed to be filled by a dentist or the person is at a distance from one, gutta-percha will be found an useful expedient. Drop a small piece of this substance in boiling water, then taking off as much as will probably fill the tooth nearly level, press it, while soft, into the cavity. Then hold cold water in the mouth on that side, to harden it. It has been known to preserve a tooth two years at least and keeps it free from cold.

Sweating Feet.

Tannin is an admirable remedy for sweating feet. Half a teaspoonful sprinkled in the stockings for a few days strengthens the skin without interrupting too much the perspiration.

Protection from Mosquitoes.

These pests have a great dislike to the odor of the oil of cinnamon or cloves. Mix one-half teaspoonful of the oil (not the essence or spirit) with an ounce of spermaceti ointment and rub it upon the face and hands.

To Keep Butter.

A simple mode of keeping butter in warm weather where ice is not handy is to invert a common flower-pot over the butter with some water in the dish in which it is laid. The orifice at the bottom may be corked or not. The porousness of the earthenware will keep the butter cool.

Watery Potatoes.

If your potatoes are watery put a piece of lime about as large as a hen's egg in the pot and they will come out as mealy as you please.

To Remove Ink and Fruit-Stains.

Ten grains of oxalic acid in half a pint of water will remove all ink and fruit-stains. Wet the article in hot water and apply it to the top of the bottle so that the liquid will reach it, then rinse it well.

How to Remove Dry Paint.

Dry paint is removed by dipping a swab with a handle in a strong solution of oxalic acid and applying. It softens it at once.

How to Remove Berry-Stains from a Book, Paper or Engraving.

The fumes of a brimstone-match will remove berry-stains from a book or paper or engraving.

Something for the Ladies.

Science has made a discovery of a new method of bleaching white goods. It is simple as it is said to be efficacious and is vouched for by German chemists. It consists in dissolving one part oil of turpentine in three parts strong alcohol and placing a tablespoonful of the mix-

ture in the water for the last rinsing. The clothes are to be immersed in this, well wrung out and placed in the *open air* to dry, not in a room.

Methods of Purifying Water.

Water is purified by—1, filtration through gravel, sand or soft, porous stone and charcoal. Or, 2, it may be sweetened and improved by charcoal, coarsely pulverized and thrown into a vessel of water. 3, by boiling and distillation.

Beds Rendered Healthy.

Beds, instead of being made up as soon as people rise out of them, ought to be turned down and exposed to the fresh air from the open windows through the day.

Feather-beds, especially for youth and in warm weather, are very unhealthy and should never be used except in very cold weather.

They should be opened every third year, the ticking washed, the feathers dressed and returned.

Damp Walls.

An excellent means of removing this difficulty is to wash them with a strong solution of alum-water.

How to Make Baking-Powder.

Take cream Tartar, five ounces; bi-carbonate of soda, two ounces; common starch, two ounces; mix. This is the composition of baking-powder sold by grocers.

A Cooling Drink for Fevers and Other Diseases.

A quantity of tamarinds infused in water forms a very refreshing and excellent drink, for sick and convalescents from diseases, especially from fevers. While at the same time it keeps the bowels open and the feces soluble.

Good Bitters.

One among the best stimulating and strengthening bitters, where something of this kind is needed, is made of the bark of the root or of the berries of prickly ash. It will also very often cure the rheumatism.

To Prevent Sickness After Exposure.

Bathe the feet and hands thoroughly in warm water at night, after being exposed to cold or wet during the day and one will seldom experience any of the bad effects which often proceed from these causes.

To Cause the Whiskers and Moustache to Grow Rapidly.

Use a stimulant of the ashes of burnt-tobacco and bay-water and shave the parts frequently.

To Prevent Danger from Wet Clothes.

Keep in motion and do not go near the fire or in any very warm

place, so as to occasion sudden heat, until after you have been able to obtain dry clothes.

To Remove Dandruff.

Take of ardent spirits, one-third; castor-oil, two-thirds; mix and apply to the scalp of the head and immediately afterwards use the comb. The dandruff will come off in masses. Afterwards, wash thoroughly with castile soapsuds; though in cases, as with men, when the hair is not long, the washing may be dispensed with.

This is the best remedy we have ever known. A single application is often sufficient.

Remedy for Rheumatism.

First bathe the affected part well with warm water, then rub with a liniment composed of equal parts of pure oil of juniper-berries and spirits of turpentine. The oil of the berries must be clear, pure and free from a yellowish or brown tinge. This is reputed a sovereign remedy for the cure of rheumatism.

Suppression of Urine in Pregnancy.

One of the best remedies in use is to stew onions in sweet-oil to the consistency of a poultice, and apply to the lower part of the abdomen. We have never known it to fail in giving immediate relief.

To Banish Mosquitoes.

Sprinkle a little brown sugar on some hot coals in your room; it will certainly banish these unwelcome intruders for the night.

For Cholera.

A remedy which has never been known to fail for the cure of cholera, cholera-morbus, diarrhea, dysentery, summer complaint, etc., is

Tinct. Cayenne, - - - one-half oz.
 " Opium, - - - " "
 " Rhubarb, - - - " "
 Essence peppermint, - " "
 Tinct. camphorated spirits, " "
 Soda, - - - - - " "

Thirty drops for an adult, five to ten drops for a child. This remedy should always be kept on hand during the summer. One dose is generally sufficient.

To Cure Toothache.

Take a paper of tobacco, pour upon it a wineglassful of warm water, squeeze out part of the moisture, and after placing the pulp upon a slice of bread, apply it as a plaster to the face. It is an effectual remedy for it in its worst form, the ague in the face.

For Acute Bronchitis.

The following is a cure for bronchitis: Take honey in the comb, squeeze it out and dilute it with a little water, occasionally moistening the lips and mouth with it. It has never been known to fail, even where children had throats so swollen as to be unable to swallow.

For Sore Throat.

When the throat first begins to feel sore, take a slice of salt pork (the saltier the better) sprinkle it well with black pepper, and bind it around the throat with flannel just before going to bed at night, and in the morning the pain will have departed.

For Chapped Hands.

Make a funnel of a sheet of ordinary newspaper, ignite the larger end and hold it down so that the smoke will pass out at the smaller opening. Hold the affected hand over the smoke until stained a light-brown color. It is the oil of the smoke that cures, and it is said to effect an immediate cure.

Chilblains.

Put on a pair of cotton socks, dip your feet in cold water, and draw on your woolen stockings outside; then go about your business as usual. The torment will be assuaged in about two minutes, and a cure for the season effected in a few days.

ANOTHER — To cure chilblains, simply bathe the parts affected in the liquor in which potatoes have been boiled, at as high a temperature as can be borne. On the first appearance of the ailment, indicated by inflammation and irritation, this affords almost immediate relief. In the more advanced stages, repetition prevents breaking out, followed by a certain cure; an occasional application will operate against a return, even during the severest frost.

To Take Paint off of Clothes.

Rub with spirits of turpentine or of wine, either will answer if the paint is but just put on. But if it is allowed to harden, nothing will remove it but spirits of turpentine rubbed on with perseverance. Use a brush, sponge or a soft rag.

THINGS WORTH KNOWING.

Prevention of Fevers as well as other Diseases.

If persons in the first stages of many diseases, such as fevers especially, would drink freely of warm sage or other herb-tea, then go to bed and take a good sweat, they would succeed in breaking up the disease at once, and thus save themselves from a great deal of suffering and expense, and perhaps escape more fatal consequences.

To Beautify the Teeth.

To a pint of boiling water add one ounce of borax, and before it is entirely cold add thirty drops, or half a teaspoonful, of the spirits of camphor and bottle and cork tightly for use.

This preserves the teeth and gums, removes the tartar, arrests decay and makes them very white. When used add two or three teaspoonfuls of the liquid to as much tepid water. Apply with a soft brush.

Blood-Purifier.

Burdock-seeds, or the roots mixed with sarsaparilla and bitter-sweet, equal quantities, say one ounce of each, boiled in three pints of water. Dose, two or three tablespoonfuls twice a day.

A tea either of ground-ivy or ground-centaury is also excellent for this purpose. So is also sassafras. The

burdock alone, if the other articles cannot be obtained, answers a very efficient purpose.

The Complexion.

Painting—The use of white paint affects the eyes, which it renders painful and watery. It produces pimples, attacks the teeth, destroys the enamel and loosens them. It heats the mouth and throat, infecting and corrupting the saliva. Lastly, it penetrates the pores of the skin, acting by degrees on the lungs and inducing disease. Powdered magnesia or violet powder is no further injurious than by stopping the pores of the skin; but this is quite injury enough to preclude its use. The best cosmetics are early hours, exercise and temperance.

To keep the Hands Smooth.

Apply pulverized starch. Those who often have their hands in dish-water or suds should rinse them thoroughly in clear water, wipe them, and while yet damp rub a pinch of starch thoroughly over them and the desired result will be produced.

Wash for the Complexion.

Add grated horse-radish to sweet milk; let it stand half a day, then apply with a linen rag.

Another—Take one-quarter pint of pure alcohol, two quarts of strong soapsuds, half drachm of rosemary; mix and apply as above.

Ice-Water.

In hot weather ice-water should be taken in small quantities at a time, if drunk at all; otherwise derange-

ment of the digestive organs is liable to ensue, which will result in laying the foundation of other troublesome diseases. It is best, in fact, if health is a consideration, to dispense altogether with the use of it as a drink.

Good Cathartics.

Manna, for children and delicate persons, is one among the best cathartics, for it is mild and pleasant. Children will eat it the same as candy. The dose is from one to two ounces for an adult, and from a drachm to half an ounce for children.

Senna is another certain cathartic. As the taste is rather unpleasant, it is frequently combined with something else, as cloves, ginger and the like. Add quarter of an ounce of the leaves to a teacupful of boiling water; with a few cloves and a teaspoonful of cream of tartar, it forms a good purgative; for a grown person it should be given at one dose, and divided for children according to age. But, as heretofore stated, the less cathartics taken, as a general rule, "the better the patient is off." Thousands are ruined by them.

How to keep Ointments and Salves.

These should not be kept any length of time, for they become rancid. Many of those which are purchased in drug-stores are worthless on this account. When you make such articles yourself you *know* they are *fresh* and *pure*. Keep closely covered, in a cool place.

Spirits of Turpentine and how to keep it.

Purchase this from the apothecary, and you are less apt than otherwise to get an article which is adulterated with benzine.

Turpentine should always be kept in a colored bottle, or one that is pasted over with a thick piece of blue paper, in consequence of the action of the light on this substance. In using it keep it away from lamp, candle or flame.

Lime-Water.

A bottle of this should always be kept prepared for use. It is not only desirable as an antidote to many poisons, but it is valuable as a remedy in various diseases (given in different parts of the book under their appropriate heads). It can be made by taking a piece of unslaked lime (as to the size it does not matter, because the water will take up only a certain quantity), put it into a bottle and fill with cold water. Keep it in a cool place and the bottle corked and where it is dark, such as a cellar. It can be used in a few minutes after made, poured off when it is needed for use. When the water is exhausted fill the bottle again. This may be done three or four times before renewing the lime.

Mustard.

Ground mustard should always be kept in every house and in a convenient place where it can be found.

The kitchen cannot always be depended on for a supply, and the delay caused by sending and getting some, in cases of many poisons, often decides the case.

Strict care should be taken to keep the mustard in a tight, wide-mouthed bottle, otherwise the active principle will escape from the powder into the air and be lost.

A valuable Poultice.

As a poultice for all kinds of local inflammations, as

wounds, sores, scalds, ulcers, tumors, gatherings and the like, there is nothing, perhaps, superior to elm-bark, and in many cases it has no equal. One ounce of the powder stirred in a little hot water or equal parts of milk, is sufficient for any ordinary-sized poultice. But the fresh bark pounded soft and moistened with water, makes as good if not better poultice than the powdered bark.

For the Prevention of Baldness.

A medical writer says, "After trying many remedies, but all in vain, I have finally found a successful one; which is the German or French soft, green soap. Take two ounces of the soap and the same amount of alcohol, and twenty or thirty drops of the oil of lavender as a perfumer.

This is used as a shampoo, every morning or evening pouring one or two tablespoonfuls on the head. Upon the addition of water and a smart friction with the fingers, a copious lather is soon produced. After keeping up the shampooing process for some four or five minutes, all the soap must be washed out of the hair by the free use of warm or cold water, and the hair thoroughly dried by means of gentle friction with a soft towel. The immediate effect experienced is a disagreeable feeling of tension of the scalp; as if it were stretched too tightly over the skull. To obviate this effect and to keep the scalp from getting too dry, it is necessary to follow up the shampooing with castor-oil one part, to alcohol three or four parts. But the best, as well as the neatest preparation that I have employed for this purpose, is cosmo-line. This is a product obtained from petroleum, and is comparatively cheap.

Hair-Restorative.

Castor-oil	-	-	-	-	-	5 ounces.
Aqua ammonia	-	-	-	-	-	1 “
Tincture Spanish flies	-	-	-	-	-	$\frac{1}{2}$ “
Alcohol	-	-	-	-	-	1 quart.
Oil of lemon,	}					- of each, 2 ounces.
“ Bergamot,						
“ Lavender,						

Mix and shake well before using, every morning when the hair is falling. Keep the bottle well corked. If the hair seems dry and harsh and full of dandruff, wash the head with egg and rain-water before using the restorative. This will be found an excellent means of restoring the hair, as its use will attest.

Night-Air.

An extraordinary folly among people is to dread the night-air. Yet what air can be breathed at night except the night-air? Then the choice is between pure night-air from without and impure night-air from within. Most people prefer the latter. Such a choice seems unaccountable. But what will they say, if it be proved true, that a large proportion of all the diseases from which we suffer is occasioned by people sleeping with their doors and windows shut? An open window, during most nights of the year, can not hurt any one. Night-air is often the best and purest that can be obtained at any time of the twenty-four hours. One can more easily understand why windows should be shut in cities and towns during the day than during the night; especially so far as sick people are concerned. The absence of smoke and dust and the quietude, tend to make the night-time the most opportune for opening the windows and airing the patient's room.

Position in Sleep.

The better position to occupy in sleep is on the right side. This gives the contents of the stomach a chance to pass out more readily than if lying on the left side or on the back. If you sleep on the left side the contents of the stomach pass up instead of down, in which case gravitation hinders instead of aids in the work. If you have eaten a hearty meal and go to sleep on the back, the weight of the food rests on the great vein near the back-bone and hinders the flow of blood.

Some physiologists claim that it is better to sleep with the "head to the North," both in health and sickness. The pillow should be only thick enough to allow the head to be on a line with the shoulder when lying on the side, that is, to be a very little above a horizontal line, for then it is easier for the heart to throw the blood to the head through the arteries, while there would be a little incline to favor the descent through the veins.

The Feet and the Stockings.

Ill health is generated by neglect to keep the feet clean. The poisonous exudations, by not being removed, are gradually absorbed again into the system by the large pores that are located on the bottoms of the feet. It is, therefore, necessary that they should be washed daily with pure water.

This neglect to keep the feet clean, coupled with the pernicious habit of wearing the socks four or five days or a week without change, is a very prolific cause of disease. Stockings or socks should not be worn more than a day or two at a time. A good way is to wear them one day, then leave them off one day until they are aired, when they may be worn another day. If they are worn

longer, the fetid, offensive matter from the feet that is deposited on the socks is readily taken into the system and blood by the absorbent vessels of the feet.

Lime for producing Perspiration.

When the health of the patient will not permit, or it is not desirable to disturb him, the following is a good means of producing perspiration: Take a piece of lime, about the size of an ordinary apple, wrap it in a piece of wet muslin and cover with several thicknesses of dry cloth, place four or five of these thus prepared at different places around the patient, and perspiration will be very rapidly induced.

Cathartics, Pills, etc.

In reference to these medicines, Dr. Wildie says,

"In actual practice it so seldom happens that an aperient, such as castor-oil, is required, that in my thirteen years' experience, during which time an extensive public appointment gave me 1300 fresh cases annually, besides dispensary and private practice, I did not give an aperient three times in a year, and then it was only a dose of castor-oil. This conclusively proves the non-necessity of purgatives as used by the old practitioners.

"I regard the administration of purgative-pills or aperient mixtures as totally out of the question; worse than useless. I have never prescribed such abominations since I abandoned the old methods of treatment.

"In case of being forced to give aperients by the patient's obstinacy, let the following rules be strictly enjoined, viz.:

"First—The use of an aperient is only a temporary expedient, and will never cure the patient.

“Secondly—Aperients are never to be used when the patient will use an injection.

“Thirdly—They should only be repeated after several days’ interval.

“Fourthly—They are never to be used where constipation is only a *symptom* of fever, inflammatory action or the like, as in such cases the only proper way to relieve the bowels is to cure the fever or inflammation, after which the bowels will begin to act for themselves.”

How to use a Syringe.

As very few know how to properly administer an injection, we submit the following directions: Take a wash-basin nearly filled with warm-water (about blood-heat is best). Grease the rectum-tube well before using it. Then, before introducing the instrument into the bowel, work it a few times through the water back into the basin. The object of this is to prevent injecting *air* into the bowel; fill it with water, for the reservoir of the instrument being full of air, on the first squeeze it is driven into the bowel, and sometimes prevents the injection being proceeded with.

Then commence injecting, but *proceed very slowly*. This is one of the secrets of success. The sudden introduction of a large quantity of water stimulates the muscular action of the bowel to such an extent that there is felt an irresistible desire to evacuate or empty the bowels immediately, and this is one of the reasons why so many persons fail in using an injection.

Should pain be felt, or the desire to evacuate come on, after about half a pint has been injected, wait a few minutes until it subsides, and then go on again very cautiously, the pressure on the instrument being very slowly performed. The cause of the pain and of its disappear-

ance is this: the bowel not being a straight tube but flexed upon itself does not permit the water to traverse it readily, so that the fluid and wind displaced by the fluid are obstructed at each bend of the intestine, but it is only temporary, and, by waiting, the discomfort felt passes away and the injection can be proceeded with.

The question is often asked, "How much water shall I inject?" and this is a most important question to answer. The answer should be, "go on injecting till the desire to evacuate is too strong to resist, but you must not bring this on by too rapid an injection." I have already stated that the wash-basin should be nearly full, and I said so for two reasons. In the first place the whole may be wanted, and in the second place if you have not enough water, it is very inconvenient to mix a fresh supply at that time.

It must be borne in mind that the quantity of water required depends on the part of the intestines where the accumulation is. In some cases this is very high up, as in the ascending colon. In this case a large quantity of water will be required. In other cases the fecal mass may be in the rectum or descending colon, when a small amount will suffice. I am quite aware that in some cases only a pint of water may produce an evacuation.

Some persons are unable to bear the introduction of more than a small quantity of fluid when all precautions are taken, as an instant desire is felt to discharge it.

When the patient can not possibly retain more than a small quantity of water, it is better to repeat the injection once or twice, as a second or third attempt will often succeed.

Soothing-Syrup.

For the benefit of those who are in the habit of giving their children soothing-syrup, we give the composition of

it, in order that they may know the character of the pernicious stuffs with which they are dosing their children.

This is what it is made of: *A poor article of whisky, morphine and simple syrup!* A beautiful compound, truly, for mothers and nurses to feed their innocent babes!

Winter-Shoes.

Put on two pairs of socks when you have your measure taken. Give direction also to have no cork or India-rubber about the shoes, but to place between the layers of the soles, from out to out, a piece of stout hemp or tow-linen which has been dipped in melted pitch. This is absolutely impervious to water—does not absorb a particle—while we know that cork does, and after a while becomes “soggy” and damp for weeks. When you put them on for the first time, with your ordinary socks, they will feel as “*easy as an old shoe*,” and you may stand on damp places for hours with impunity.

Chemical Erasive Soap.

Glycerine,	-	-	-	-	-	1 ounce.
Sulphuric ether,	-	-	-	-	-	1½ “
Alcohol,	-	-	-	-	-	1½ “
Aqua ammonia,	-	-	-	-	-	1½ “

Dissolve one and one-half ounces of castile-soap in two and a half pints of hot water, and add to the above.

This will remove every particle of grease, from all kinds of cloth.

It should be applied with a sponge or cloth, after which the garment should be sponged or rinsed with water.

To Escape From Fire.

Creep with your face near the floor, as there the air is pure, even though the room be full of smoke. The best means of escape from upper windows is by knotted ropes; but if a leap be unavoidable, throw out the beds first. When a fire happens do not open the doors, as the fresh air, thus admitted, will increase the fire. Go down stairs on your hands and knees. Send children down by a sack fastened to a rope. Burnt air is as great an enemy to fire as is water. Then the principal object should be to exclude the fresh air from without, and confine the air within. The prevailing practice of breaking windows is peculiarly mischievous and hurtful.

Artificial Cream.

Take milk,	-	-	-	-	8	tablespoonfuls.
Sugar,	-	-	-	-	$\frac{1}{4}$	pound.
Corn-starch,	-	-	-	-	2	ounces.

Dissolve the sugar first in a pint of water, then add the other ingredients and sufficient water to make a quart of the whole. This will be found an excellent substitute for cream.

Successful Means of Catching Fish.

Put the oil of rhodium on the bait and no difficulty will be experienced in catching fish, for when there are any within a few yards of the bait they will at once seize it.

Smellage mixed with the bait is pronounced to be equal to rhodium.

Fish can be easily and rapidly caught with the hands, with —

Half-ounce of caceulus indicus,
 Half-drachm of oil of rhodium,
 Half-pound of cheese.

Mix and break into small bits and throw into the water. It stupifies the fish for a short time when they can be picked up with the hands.

Wash for the Face.

Add a piece of gum-tolu, the size of a nutmeg or larger, to a small basin of soft water. After thirty minutes it is ready for use. A few applications will soften the skin, remove tan and to some extent freckles. This is much more valuable to beautify the complexion of young ladies than many of the costly and injurious cosmetics. Some use fine soap in connection with this.

Sure Test of the Extinction of Life.

If a limb of the body—a finger is best for the purpose—be constricted by a strong ligature, quite tightly, there will, if the subject be yet alive, be seen a reddening of the constricted member. First, the part in question becomes red, then the red color becomes darker and darker and deeper in hue, till it is finally converted into a bluish-red, the whole limb being from its tip to the ligature which encircles it, of a uniform color, except that at the region immediately around the ligature itself there is to be seen a narrow ring, which is not bluish-red, but white. The bluish coloration of the nails or of the finger-tips, so often seen on the dead body, as well, too, in certain cases of blood-disease, need not be regarded as any source of fallacy, for, after the ligature of a finger, as long as life remains in the body, the whole of the limb from the place of the ligature to the extremity will be uniformly blue-red, but if the coloration do not take place, or only at a circumscribed spot on the limb, it can be with certainty concluded that the spark of life is extinct.

To Destroy Ants.

Ants are averse to strong scents. Camphor will prevent their infesting a cupboard, or a sponge saturated with creosote.

Drop some unslaked lime on the mouth of their nest and wash it in with boiling water; or dissolve some camphor in spirits of wine, then mix with water and pour it into their haunts; or tobacco-water has been found effectual. To prevent their climbing up trees, place a ring of tar about the trunk.

Brine for the Preservation of Butter.

To three gallons of brine strong enough to bear an egg, add a quarter of a pound of nice white sugar and one tablespoonful of saltpetre. Boil the brine and when it is cold strain carefully. Make your butter into rolls and wrap each roll separately in a clean, white muslin cloth, tying up with string. Pack a large jar full, weight the butter down and pour over the brine until all is submerged. This brine will keep really good butter perfectly sweet and fresh for a whole year. Be careful not to put upon ice butter that you wish to keep for any length of time. In summer, when the heat will not admit of the butter being made into rolls, pack closely in small jars, and, using the same brine, allow it to cover the butter to a depth of at least four inches. This excludes the air and answers very nearly as well as the first method suggested.

Measuring Hay.

To measure the contents of a stack of hay proceed as follows: If it is a round stack, tapering to a point from

the ground, measure the width of half-way between the ground and the peak of the stack; multiply this width by itself and divide by 7854; this will give the average area of the surface covered by the stack. Then multiply that by the height from the ground to the point where the width was measured. If these measurements are feet, the sum found is the cubic feet in the stack. If the hay is timothy, orchard grass, millet or Hungarian, five hundred feet will make a ton, or a cubic eight feet each way. If the stack is very solid, and was cut when dead ripe, three hundred and fifty feet will make a ton, or a cube of seven feet each way. If the hay is mixed with clover, about seven hundred feet, or a cube of nine feet each way, will make a ton. If it is all clover, or light meadow-grass or red-top, nine hundred feet will be required to weigh a ton, unless it is pressed very hard, when some allowance must be made. These estimates are made from notes of a great many stacks and mows of various kinds and will give a fair average.

Keep Ammonia in the House.

No housekeeper should be without a bottle of spirits of ammonia, for besides its medical value it is invaluable for household purposes. It is nearly as useful as soap, and its cheapness brings it within reach of all. Put a teaspoonful of ammonia into a quart of warm soap-suds, dip in a flannel cloth, and wipe off the dust and fly-specks, and see for yourself how much labor it will save. No scrubbing will be needful. It will cleanse and brighten silver wonderfully. To a pint of suds mix a teaspoonful of the spirits, dip in your silver spoons, forks, etc., rub with a brush and polish with chamois skin. For washing windows it is very desirable; put a few drops of ammonia on a piece of paper and it will readily

take off every spot or finger-mark on the glass. It will take out grease-spots from every fabric; put on the ammonia nearly clear, lay blotting-paper over the place and press a hot flat-iron on it for a few moments. A few drops in water will clean laces and whiten them as well; also muslins. Then it is a most refreshing agent at the toilet-table; a few drops in a basin of water will make a better bath than pure water, and if the skin is oily it will remove all glossiness and disagreeable odors. Added to a foot-bath, it entirely absorbs all noxious smell so often arising from the feet in warm weather, and is valuable for cleaning the hair from dandruff and dust. For cleaning hair and nail-brushes it is equally good.

Over-Training.

The premature death of John C. Heenan, the antagonist of Sayers, will serve to impress the fact, which ought now to be well known, that the excessive and severe "training" which is customary amongst athletes prior to attempting feats of strength and agility, is detrimental rather than serviceable to the health. Nothing, indeed, is better calculated to break down a strong constitution than ordinary habits of indulgence, alternated, with fits of "hard training."

The Health Tree---Blue Gum.

M. Gimbert has been long engaged in collecting evidence concerning the Australian tree, Blue-gum or *Eucalyptus globulus*, the growth of which is surprisingly rapid, attaining besides gigantic dimensions. This tree possesses an extraordinary power of destroying miasmatic influence in fever-stricken districts. It has the singular property of absorbing ten times its weight of water from

the soil, and of emitting antiseptic camphorous effluvia. When sown in marshy ground it will dry it up in a very short time. The English were the first to try it at the Cape, and within two or three years they completely changed the climatic condition of the unhealthy parts of the colony. A few years later its plantation was undertaken on a large scale in Algeria. At Pardock a farm, situated on the banks of the Hamyze, was noted for its extremely pestilential air. About 13,000 of the eucalyptus were planted there. In the fever-season not a single case occurred; yet the trees were not more than nine feet high. Since then complete immunity from fever has been maintained. The farm of Ben Machydlin was equally in bad repute. In five years the whole ground was dried up by 14,000 of these trees, and farmers and children enjoy excellent health. At the factory of the Gue de Constantine, a plantation of eucalyptus has transformed twelve acres of marshy soil into a magnificent park, whence fever has completely disappeared. In the island of Cuba this and all other marsh-diseases are fast disappearing from all the unhealthy districts where this tree has been introduced. A station-house in the Department of the Var was so pestilential that the officials could not be kept there longer than a year. Forty of these trees were planted, and it is now as healthy as any other place on the line.

This tree is now being cultivated very extensively in California, from whence ere long we expect to have reports of what it will do for that part of the United States.

Influence of Marriage on the Duration of Life.

M. Bertillon lately read before the Academy of Medicine a paper on the relative influence of marriage and

celibacy, based on statistical returns derived from France, Belgium and Holland. In France, taking the ten years 1857-66, he found that, in 1000 persons aged from 25 to 30, 4 deaths occurred in the married, 10.4 in the unmarried, and 22 in widowers; in females at the same age, the mortality among the married and unmarried was the same—9 per 1000, while in widows it was 17. In persons aged from 30 to 35, the mortality among men was, for the married, 11 per 1000, for the unmarried, 15, and for widowers, 19 per 1000; among women, for the married, 5, for the unmarried, 10, and for widows, 15 per 1000. There appears to be a general agreement of these results of marriage in Belgium and Holland, as well as in France and Paris. •

Carpets, Dust and Disease.

An atmosphere impregnated with the dust which has been gathered in carpets and remained there for a considerable length of time is positively unhealthy. The dust, after being stagnant for some time, especially in warm weather, presents myriads of animalculæ. To prevent the evil the carpet should be cleaned often. The dust should be thoroughly removed every month. The trouble of taking up, shaking and replacing will be amply repaid, first in the matter of health, and secondly in preserving the carpet. We advise the good housewives—there are many—to make a note of this.

Pure Air in the Kitchen.

It is an essential to health that the air of the kitchen should be as pure as that of the parlor, because food prepared in foul air partakes of the foulness to a great extent. A little sink near a kitchen door-step, inadver-

tantly formed, has been known, although not exceeding in its dimensions a single square foot, to spread sickness through a whole household. Hence, everything of the kind should be studiously obviated, so that there should be no spot about a farmhouse which can receive and hold standing water, whether it be the pure rain from the sky, the contents of a wash-basin, the slop-bowl or the water-pail.

Airing Beds in the Morning.

There is too little attention paid to this important requisite to health. The wise house-keeper should see to it that all the beds should be aired immediately after being occupied. The impurities which emanate from the human body from insensible perspiration are made up of minute atoms, which, if allowed to remain long, are absorbed by the bed, and will then, to a greater or less extent, vitiate the air for a considerable time afterwards. Let the occupant throw the bed open on rising, and as soon as is convenient open the windows and ventilate the sleeping room. One hour's early ventilation is worth two hours' late airing.

How to Arrest Coughs.

Any sensible person will always endeavor to suppress coughing, sneezing and other morbid phenomena of respiration, as such actions sometimes become annoying to others, and are therefore proportionably distressing to the subject of the affection. We have sometimes heard an eloquent minister pause a few moments in his sermon, and, with eyes directed to the spot whence the cause of the interruption proceeded, request that an effort might be made to arrest it. What would have

been given under such circumstances to know that by simply pressing the nerves in front of the ear, the cough would occasion no further trouble! Hard pressure on the roof of the mouth, or on the nerves of the lip in the neighborhood of the nose, will have a similar effect; the latter is well known to prevent sneezing. Hiccough also, though in a less degree, is arrested by pressure in the front of the ear. Children, and possibly a few vain and selfish persons might be unwilling to try such simple expedients, preferring the observation or sympathy which they sometimes endeavor to secure by some idiosyncrasy of the kind. But that the will exerts a forcible power in the matter is very evident; and thus the apparently arbitrary threats, "Whoever coughs will go to bed at seven to-night," "The first patient who coughs will be deprived of his food to-day," sometimes resorted to in the case of children and patients, are fully justified by the results. We are assured that a French nurse employed this means of arresting a cough with great success.

Hints to Bathers.

The Royal Humane Society has issued the following notice: Avoid bathing within two hours after a meal, or when exhausted by fatigue or from any other cause; or when the body is cooling after perspiration; or altogether in the open air if, having been a short time in the water there is a sense of chilliness with numbness of the hands and feet; but bathe when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body by sitting or standing undressed on the banks or in boats after having been in the water. Avoid remaining too long in the water; leave the water immediately there is the slightest feeling of

chilliness. The vigorous and strong may bathe early in the morning on an empty stomach. The young and those who are weak had better bathe two or three hours after a meal; the best time for such is from two to three hours after breakfast. Those who are subject to attacks of giddiness or faintness, and those who suffer from palpitation and other sense of discomfort at the heart, should not bathe without first consulting their medical adviser.

To Clean Ladies' Black Dress-Goods.

Take common lager beer, and, with a sponge or black cloth, rub it on the right side of the goods, then iron on the wrong side. This process will also stiffen the goods and render them as glossy as when first purchased. A cheap and very convenient recipe for making old dresses new.

Spine-Complaint.

It is asserted by those who should know the facts, that in Ireland and other countries where milk-pails, etc., are continually carried on the head, no such ailment as spine-complaint is to be found! And there is yet another very important point in rearing children, often neglected for want of thought, viz., teaching them to go to sleep in a proper and healthy attitude. The head should be but little raised; the chin on the pillow, not bent down on to the chest; the mouth shut, and, above all, the backbone stretched straight; or, if at all bent, bent into a hollow curve, like a horse's back, instead of into a round curve like a pig's.

What is in the Bed-room.

If two persons are to occupy a bed-room during the night, let them step on a weighing scale as they retire, and then again in the morning, and they will find their actual weight is at least a pound less in the morning. Frequently there will be a loss of two or more pounds, and the average loss throughout the year will be a pound of matter, which has gone off from their bodies, partly from the lungs and partly through the pores of the skin. The escaped matter is carbonic acid and decayed vegetable, animal matter or poisonous exhalation. This is diffused through the air in part and part absorbed by the bed-clothes. If a single ounce of wool-cotton be burned in a room, it will so completely saturate the air with smoke that one can hardly breathe, though there can only be one ounce of foreign matter in the air. If an ounce of cotton be burned every half hour during the night, the air will be kept continually saturated with smoke, unless there be an open window or door for it to escape. Now the sixteen ounces of smoke thus formed is far less poisonous than the sixteen of exhalations from the lungs and bodies of two persons who have lost a pound in weight during the eight hours of sleeping; for while the dry smoke is mainly taken into the lungs, the damp odors from the body are absorbed both into the lungs and into the pores of the whole body. Need more be said to show the importance of having bed-rooms well ventilated and of thoroughly airing the sheets, coverlets and mattresses in the morning, before packing them up in the form of a neatly made bed?

Soothing-Syrup.

In the *Pacific Medical Journal*, Dr. McNutt has recently exposed the system in San Francisco, and, if we

are to believe the records which from week to week appear in the daily papers, "our withers are not unwrung." His attention was first called to the baneful effects and the enormous consumption of Mrs. Winslow's Soothing-Syrup by an article in the *California Medical Gazette*. The author had been called to see a child aged six months, apparently in a dying condition from the effects of some narcotic poison. He found that this soothing-syrup was the only medicine which had been administered, and of it the child had taken two teaspoonfuls within ten hours. There were remaining in the vial from which the two teaspoonfuls had been taken, ten drachms, which yielded, on analysis by a skilful chemist, nearly one grain of morphia and other opium alkaloids to the ounce of syrup. Dr. Murray, in the article already referred to, says, "I have ascertained that there are about one hundred thousand two-ounce bottles of it sold annually in this city, containing about one hundred and eighty thousand grains of morphia, which are given annually to the infants of this State." If the infants of California consume two hundred thousand ounces of soothing syrup, it is but fair to assume that there is seventy-five times that amount used in the whole United States, which would make fifteen million ounces of syrup, or about fourteen million grains of morphia. Setting aside the direct cost of this nostrum, it would be scarcely possible to estimate the damages which the people of the United States sustain indirectly from its use.

Asparagus as a Medical Agent.

A medical correspondent, on whose statement we can most implicitly rely, informs us that the advantages of this plant are not sufficiently estimated by those who suffer from rheumatism and gout. Slight cases of rheu-

matism are cured in a few days by feeding on this delicious esculent; and more chronic cases are much relieved, especially if the patient carefully avoids all acids, whether in food or beverage. The Jerusalem-artichoke had also a similar effect in relieving rheumatism. The heads may be eaten in the usual way, but tea made from the leaves of the stalks and drunk three or four times a day, is a certain remedy, though not equally agreeable

What our Whiskies and Teas are made of.

An analytical chemist here, acting in behalf of the editor of a spirited journal, *The North British Daily Mail*, has lately been making a number of investigations into the composition of the different kinds of whisky and tea as sold in our city. The result of his examination of these articles, which he tells us he procured indiscriminately from several retail shops scattered throughout the city, discloses a state of matters sufficiently shocking to deter many of my townsmen and townswomen from ever indulging in either of these popular beverages again without previously submitting them to a chemical analysis.

The adulterants found in whisky were fusil oil, naptha, sulphuric and hydrochloric acids, sulphates of copper and zinc, shellac, turpentine, etc. These ingredients it appears are added to the genuine article to enable the dealer to mix with it a larger proportion of water than it would otherwise take up without detection by his customers; they therefore give a fictitious strength to the whisky, and thereby delude the thirsty folk who swallow it into the belief that they are being supplied with the utmost value for their money. The effects which follow the immoderate and long-continued use of the purest

alcohol are serious and deplorable enough, but what they must be when that intoxicant has been adulterated with such noxious elements as we have mentioned, we leave to your readers' imagination.

Out of twenty-seven samples of black tea that were analyzed only six were found to be genuine, while of eight specimens of green tea examined, all were more or less mixed with foreign matters. The substances employed in the adulteration consisted of exhausted tea-leaves; the leaves of *camelia sasanqua*, *chloranthus inconspicuus* and *officinalis*, willow, hawthorn, oak, sloe, elm, beech and elder, pieces of the rind of some plant of the pomegranate order, catechu, clove and cinnamon buds, turmeric, starch, indigo, Prussian blue, China clay, sand, chalk, gypsum, salts of iron, etc.

Few persons who daily partake of what they innocently believe to be the "cup that cheers but does not inebriate," are aware that they are pouring into their delicate stomachs such disgusting and poisonous matters as this chemist assures us are rarely absent from the tea sold in the shops of our city. What is true of Glasgow there is too much reason to fear is equally true of all the towns and villages in the United States; for, while some part of the adulteration may be, and no doubt is, carried on by the small retailers, the greater part is unquestionably effected by experienced manipulators on a large scale in London, San Francisco, New York and China.

After the above revelation, who will have the courage to drink his beloved beverage as heretofore? For our own part we have long suspected the purity of our so-called tea, and have substituted for it sometimes milk and water, and at other times hot water slightly sweetened, and not unseldom plain cold water, not only with much advantage to our digestive organs, but with no inconsiderable saving to our pocket.

Exercise.

Exercise strengthens and invigorates every function of the body, and is essential to health and long life. No one in health should neglect to walk a moderate distance every day, and if possible in the country, where the pure and invigorating air can be freely inhaled. *Walking* is the healthiest as well as the most natural mode of exercise. Other things being equal, this will insure the proper action of every organ of the body. The walk for health should be diversified, and if possible include ascents and descents and varying scenery, and be alternated, when circumstances admit of it, with riding on horseback, active gardening or similar pursuits; and with gymnastics and games of various kinds. Calisthenics prevent deformities as well as cure them. A gymnasium should be attached to every school, whether for boys or girls. Athletic sports and manly exercise should form a part of the education of youth, nor should they be neglected in after life, especially by persons of sedentary pursuits. Many aches and pains would rapidly vanish if the circulation were quickened by a judicious and regular use of the muscles. These modes of exercise, practiced moderately and regularly, and varied from day to day, are much more advantageous than the exciting, immoderate and irregular exertions which characterize the ball-room, the hunting-field, and even the cricket-ground or the rowing-match, which are sometimes pursued so violently as to be followed by severe and permanent injury to the constitution. In the case of very feeble and infirm persons, carriage-exercise, if such it may be called, and frictions, by means of bath-sheets and gloves, over the surface of the body and extremities, are the best substitutes for active exertion.

The proper periods for exercise are when the system is not depressed by fasting or fatigue, or oppressed by the process of digestion. The robust may take exercise before breakfast; but delicate persons, who often become faint from exercise at this time, and languid during the early part of the day, had better defer it till from one to three hours after breakfast. Exercise prevents disease by giving vigor and energy to the body and its various organs and members, and thus enables them to ward off or overcome the influence of the causes which tend to impair their integrity. It cures many diseases by equalizing the circulation and the distribution of nervous energy, thus invigorating and strengthening weak organs, and removing local torpor and congestion.

Invalids should always be moderate in their exercise; take only short walks, avoid fatigue and not stand in the open air. The best time for them is in the forenoon, arranged so that they can rest for half an hour before dinner. They should never take exercise *immediately* before a meal or going to bed.

Clothing.

The adoption of artificial clothing by man serves three purposes—the regulation of the temperature of the body; protection from friction, insects and dirt; and ornament.

In this climate clothing is chiefly employed for warmth, which purpose it secures by moderating or restraining the escape of heat from the body. Articles of clothing have no power in themselves of generating heat, and are designated as warm or cool just in proportion as they restrain or favor the escape of heat. Thus, a lady's muff and a marble floor are ordinarily of the same temperature; but the sensation produced by each is widely dif-

ferent, because the animal heat is retained by the muff, and rapidly carried off by the marble. Hence, for clothing we select those substances which least conduct heat, such as the wool of sheep and the silk produced by silkworms, which are superior, as non-conductors, to cotton or linen. In this country we have recourse chiefly to the former in winter, and to the latter in summer, cotton and linen garments being coolest, linen cooler than cotton.

There are several practical errors on the subject of clothing, committed perhaps by a majority of persons, to which we may briefly direct attention. "The first and most obvious of these," says the celebrated Dr. Baillie, "is wearing too much clothing in-doors or in bed, thereby both exhausting the natural powers of the skin, and exposing its action to a sudden check on going out into the cold air. This forms one of the principal objections to the almost universal use of flannel, *worn next the skin*, and kept on even during the night, as is the practice with many persons. The skin is thus unnaturally excited, and in course of time loses its natural action; or, on the other hand, becomes so sensitive as to have its action checked on the slightest exposure." "I never use anything else," the same physician informs us, "than a light cotton shirt to sleep in, and strongly object to the common practice of *sleeping in flannel*."

Wearing flannel next the skin.—The prevalence of this objectionable habit suggests the necessity of a word of caution. It is well known that, even in otherwise normal conditions, the skin of some persons is highly irritable and most unpleasantly excited by contact with flannel, and that when this exalted sensibility exists, the use of flannel next to the skin may develop decided physical alteration. It does this mechanically by retaining the local heat and intensifying reaction. Cases of skin-disease often come before us in which pruritus

is thus aggravated and the affection prolonged, especially when combined with neglect of proper washings. In congested conditions of the skin, or in diseased states of the nerves of the skin, flannel is inadmissible; or if necessary to guard against vicissitudes of the weather, it may be worn outside a linen garment, as before suggested. The diseases in which this advice is especially applicable are, according to Dr. Tilbury Fox, certain skin-diseases, certain syphilitic eruptions, in their early stages, itch and prurigo. "A remembrance of this little practical fact," says the above author, "will sometimes give us the greatest cause to be thankful that we attended to it, trifling though it be." Flannel, however is of great value in our variable climate, and may be generally worn through the whole year as a great protection to health and life. Even in summer weather flannel should not be cast aside, but a thin, light garment of that material substituted for a heavy one.

Bed-clothing.—"A similar, but still stronger objection applies to heavy bed-clothes, for the reason that, once under them, in the house of a stranger, you are entirely at their mercy. They throw you into a perspiration, and then you kick them off: this gives you a chill and you are compelled to take them back again, and so you go on, alternately roasting and freezing and constantly cursing, through the whole blessed night. Those heavy "comforters," as the country people call them, should be banished or burned as abominations. The diseases, colds and profanity they have occasioned are incalculable. They are not quite unendurable on an extremely cold winter's night, if one could be quite sure they would be found on his bed in no milder weather."—*Dr. Campbell.*

The *color* of clothing is not unimportant, light being preferable for the following and other reasons: 1.

White reflects the rays of heat which the black absorbs ; at the same time it impedes the transmission of heat from the body. Light-colored clothes are therefore best both for winter and summer, retaining the heat in the former season and keeping it off in the latter. 2. Particles which emanate from diseased bodies, as in miasmatic districts, and unhealthy accumulations, are much more readily absorbed by dark than by light clothing. Therefore, those who are exposed to contagious influences in the sick-room, or in unhealthy neighborhoods, should wear light clothing. Dark clothes favor the transmission of contagious disease from house to house much more readily than light. Dark clothing imbibes odorous particles most readily, as the effluvia of the dissecting-room, the smell of tobacco ; and even the peculiar odor of city smoke is at once detected in black clothing by country people.

Frequent changing and cleansing of clothes is another point deserving attention. The practice of adopting dark-colored instead of light-colored garments has frequently its origin in economy, dark clothes tolerating an amount of dirt inadmissible in light. It should be recollected, however, that dark garments contract dirt after being worn a little time as much as light, and if not changed and cleansed may favor the production or spread of disease.

Thick, heavy clothing, the tissues of which are close and firm, is inconvenient. The textures of materials for clothing should be loose and porous, and contain air in their interstices—air being a bad conductor of heat.

The advantage of having numerous light instead of fewer heavy coverings to the skin are these: The stratum of air interposed between each layer of covering being a non-conductor, they are relatively much warmer than a much greater thickness in fewer pieces ; secondly,

they can be more easily laid aside to suit changing temperature; thirdly, being lighter, they are less apt to overheat the wearer, and thus lessen the chance of a consequent chill.

In China, one of the most changeable climates in the world, the variation in one day being frequently 35 or 40 degrees, this is the mode adopted by the natives to protect themselves: a working-man will often appear in the morning with fifteen or twenty light jackets on, one over the other, which he gradually strips off as the day gets warm, resuming them again towards night.

Other points may be briefly referred to. Summer-clothes should not be put on too soon, or winter ones too late. Thin-soled or high-heeled boots and shoes are destructive to health. *High-heeled boots or shoes* tend to change the long axis of the body, directing the trunk backwards, and this altering the inclination of the pelvis is likely to influence unfavorably the process of gestation. Other injuries that have resulted are, troublesome corns, inflammation of the ligaments of the ankle-joints and of their sheaths, and even dislocation of this joint. Only the anatomist knows the frightful misplacement of the internal organs of the body that is caused by the suicidal habit of *tight lacing*. It gives rise, more or less, to that depression of spirits so common to young ladies; and worse still, occasionally originates or aggravates organic disease of the most serious description. The muscles of the body were intended to sustain it erect; but when stays are applied they soon become indispensable, by superseding the action of the muscles; and, in accordance with a well-known law of the muscular system, when they cease to be used they cease to grow, and become insufficient for the discharge of their natural functions.

Finally, it may be stated that the clothing of children,

whose feeble frames are less able to resist cold than those of adults, is generally insufficient. When a baby is divested of its long clothes, it is in danger of being insufficiently clad, the danger increasing when it can run alone and is more exposed to atmospheric influences. It can not be too strongly impressed upon those who have the charge of children, that the practice of leaving those parts exposed which, when grown up we find it necessary to clothe warmly, especially the lower limbs and abdomen, is a frequent cause of retarded growth, consumption of the bowels, of the lungs, etc. Insufficient warmth of the body, whether in children or adults, renders the person more susceptible to disease.

BREAD AND ITS COMPOSITIONS.

Value of unbolted flour—By our system of grinding, bolting and separating wheat our fine flour contains but a little over half the quantity which has been provided for the wants of our systems in this important grain. The almost universal use of fine flour, instead of unbolted flour, is doubtless a fruitful cause of not only disease, but imperfect development of the system and its organs; in fact it is quite certain that here is to be found one of the most fruitful causes of consumption. And it would be far better if physicians would feed their patients with unbolted flour, and thereby supply the phosphorus that is found in this kind of flour, than to give them the various phosphates directly from the mineral kingdom for preventing and curing consumption.

In the process of bolting flour, the dark portion is

separated almost entirely, and yet *this* is the nutritious portions of the grain, and that which, in a great measure nourishes the muscles and gives strength to the system; whereas the white or starch-portion of the grain is of but little use except as a heat-producing agent; and, in this respect, it is far inferior to fat or oil; and most of the oil in wheat is contained in the dark or external portion of the kernel.

Dr. Bennett says, "Now, if there is a well established fact emanating from experimental analysis, it is this: That superfine or very finely bolted wheat-flour will not alone sustain animal life. This fact has been repeatedly demonstrated by Magendi, the greatest physiologist that ever lived. Having ascertained that the muscular and nervous tissues, including the whole brain or cerebral mass, was composed of nitrogenous matter, he readily concluded that starch or the fecula of wheat would not alone sustain animal life, for the reason that it contains not a particle of nitrogenous matter. Consequently, he found by experiment that animals fed exclusively on very finely dressed flour died in a few weeks; whereas, those fed on the unbolted, thrived.

"Then, again, by the repeated analyses of both American and European chemists, it is abundantly demonstrated that the portion immediately beneath the external covering contains a very large per cent. of nitrogenous matter, which should be mixed with the internal, or non-nitrogenous, in order that the muscular and nervous systems be properly nourished. Add to this well known fact that the inhabitants of Scotland, Germany, Russia, as well as families and individuals in all parts of the world, who use almost exclusively unbolted flour, are seldom troubled with dyspepsia or indigestion, enjoy better health generally, and are possessed of much greater powers of endurance, and we have an array of

facts, which, if universally heeded, would consign the use of superfine flour, unmixed with this most nutritious or nitrogenous part, to oblivion."

A medical author, in his writings, observes that the worst cases of scurvy he ever treated were persons who lived almost principally on toast and bread made of superfine flour.

The facts are, we feed our domestic animals the most nutritious and important part of the grain, and retain for our own use an inferior, heat-producing material, with a less amount of nutritious matter than was intended for our benefit. We also lose the sweetest portion of the grain, and all of this is sacrificed to simple fineness and whiteness, notwithstanding our teeth are perishing for want of use.

Many of the most important aliments of our blood, brain and bone are found in the greatest abundance in the colored, outward part of the wheat, which we deem fittest for pigs; so we fatten them and suffer ourselves.

Raising Dough—Different methods are employed for this purpose, and some very objectionable ones. Dough is rendered spongy and light by the formation of gas through the mass, distending it and forming small cells. In the process of raising bread by the aid of yeast-leaven, salt or milk-risings, carbonic-acid gas is generated by the commencement of fermentation, which process is checked by baking.

The use of leaven, or a portion of sour dough kept from a former baking, almost always gives a sour taste to the bread, caused by the presence of what is known as lactic acid; its use is therefore objectionable.

The employment of chemical substances is likewise objectionable, and they should never be used for raising bread or biscuit.

Bicarbonate of potash or saleratus and sour milk

should not be employed, as it is difficult to get the exact quantity necessary to neutralize the acidity of the milk; and if enough is used to prevent a sour taste, an excess is very sure to remain in the biscuit, often sufficient to change the color and affect the taste.

Yeast and salt or milk-risings are far preferable to either of the above:

The mineral substances used for raising bread, such as bicarbonate of soda, that is, the baking-powder, cream of tartar, etc, are more or less impure, being adulterated with sulphurous acid, lime, alum, chalk, bisulphate of potash, and various other preparations. And yet even when these miserable preparations are pure, there is no nutriment in them; they are only medicinal, and exert a disturbing action upon the healthy organism. Their habitual use is highly injurious, is the fruitful cause of much disease, and also does much toward preventing and impairing the physical development of the young. These poisons have no business in the kitchen, and should be speedily banished.

ANIMAL FOOD.

It is probable that the time has been, in the far distant past, when the men of earth did not use meat. And we know men now who, from their childhood, have never used meat, or even butter, and yet their systems are well developed, and they are robust, muscular men.

We have medical writers who condemn the use of meat, as unnecessary and injurious. But most people

of our country have eaten meat, and their fathers for many generations before them have done the same, so that their digestive systems are accustomed and accommodated to the use of it; therefore it is not every one who can leave off eating meat and continue to enjoy good health.

Some physicians claim that they have been compelled to recommend the use of meat to their patients, and that its use resulted in a salutary effect. But there is no doubt that *many* will find themselves better in body and clearer in mind, if they will use less meat than they do.

There is hardly a question that the human family would be better off to-day, in the aggregate, had they never used meat at all, than they are while using it in that excessive degree which is now common. But, in its use, we should doubtless do better to abstain from eating the flesh of those animals which the Jews were prohibited from eating.

Hayward, in his history of Massachusetts, gives an account of a man living in Worcester county, who was able to go into the field and mow, at the advanced age of one hundred and sixteen years, and yet ate no meat from early childhood.

The Hindoos are a healthy people, yet they live, to a great extent, on rice, and are capable of enduring strong, muscular exertions; while the flesh-eating foreigner suffers from the heat of the day and air of the night, and is troubled more or less with diseases of the liver, digestive organs, etc. The native races of Sierra Leone subsist on fruits and boiled rice, and are found to be long-lived and healthy, notwithstanding they live in one of the worst climates.

The Indians, who reside in some parts of Mexico and South America, and who subsist almost entirely on vege-

table diet, are represented as being remarkably exempt from disease.

The inhabitants of the Pacific islands, in their heathen state, were well-built, fine, muscular, robust people, and their diet was almost exclusively vegetable.

Hence it is not strictly essential that animal food be employed by people, in order to insure health, bodily strength or longevity.

On cooking animal food—Cooking subserves several important purposes, and therefore demands more intelligent consideration than is usually given to it. Uneducated persons do not understand the reasons for certain preparations and processes, and only act according to custom and the traditions of the kitchen and the sick-room. Hence, good food is wasted and spoiled, and both the healthy and diseased are disappointed of the anticipated flavor and nourishment. Cooking removes some things that might prove injurious, destroying any parasitic germs that may exist. It renders food more pleasant to the eye, agreeable to the palate, and digestible by the stomach. It softens connective tissue, relaxes muscular fibre, coagulates albumen, and solidifies fibrine, thus making the whole substance less cohesive and more easily masticated, dissolved and assimilated. Previous beating and bruising facilitates the process, and makes the flesh more tender; hence the common custom of beating chops and steaks. The warmth of the food also aids digestion.

In baking and roasting, effort should be made to prevent evaporation. Indeed, the perfection of cooking is to retain as much as possible of the constituent elements of the meat, and this is accomplished in the different methods adopted by subjecting the meat at first to a strong, quick heat, which contracts the fibres, coagulates the albumen at the surface, and thus closes up the pores

by which the nutritious juices would escape. A lower and less rapidly acting heat will then suffice; for, thereafter, the cooking goes on through the agency of the natural moisture of the flesh. Converted into vapor by the heat, a kind of steaming takes place, so that whether in the oven, on the spit or in the midst of boiling water, the meat is in reality cooked by its own steam. When properly prepared, instead of being dried up or insipid, the meat will be full of its own juice, which will flow forth as rich gravy at the first cut.

Boiling—For this process a large joint is preferable. It should be put suddenly into *boiling* water, and remain at boiling temperature for five or ten minutes. By the contraction and coagulation thus caused, the internal juice is prevented either from escaping into the water by which it is surrounded, or from being diluted and weakened by its entrance through the pores. The boiling may then cease, and the remainder of the process may go on most effectually at a temperature of 160° to 170° ; indeed, the common mistake is to shrink and harden the muscular fibre by the maintenance of excessive heat.

Roasting, to retain the nutritive juices, should take place quickly, and before a fierce fire at first; a lower heat, at a further distance from the fire, will then suffice.

Broiling should be done in the same way. A beef-steak or mutton-chop should be done quickly over a hot fire, that the natural juices may be retained.

Baking is but a method of roasting, but with this difference, that it takes place in a chamber from which there is usually no escape for the volatile fatty acids which are generated. They, therefore, impregnate the meat and render it richer and stronger, and less adapted for weak digestion.

Frying is, for the same reason, objectionable, because the fatty matter in which the meat is cooked produces an

excess of the volatile acids; moreover, the fat is often burnt, and thus changed in its character, and rendered unsuitable for invalids.

Stewing is the best process for digestion. The meat should be just covered with cold water, then heated up and kept simmering, not boiling, till thoroughly done. The nutritive materials are diffused through the solid and liquid, which are then served up together. *Hashing* is the same process with meat previously cooked. *But hashed or otherwise twice-cooked meat is very unwholesome.*

There is another method of cooking, by which the meat is stewed in its own vapor alone. The meat is placed in a covered jar, the jar is put into water in a saucepan, and the water is made to simmer, and when a sufficient time has elapsed the meat is done, quite tender, and well adapted to the invalid. Warren's Cooking Pot, and the "Norway Nest," are constructed to prepare meat in this way.

Soups, Broths, etc.—If, however, it is desirable to extract the nutriment so that it may be given in a liquid form, the meat should be finely chopped or minced, put into cold water, and after maceration for a short time, gradually heated to a simmering temperature, at which it should be kept for half an hour if *broth* be required. But if *soup* be wanted the heating should go on to boiling point, and be maintained there, in order that the gelatine may be extracted to solidify the soup. Bones yield abundant gelatine, but require long boiling. It should be carefully observed that the minced meat should be put into cold water for a time, never into boiling water at first.

It is a cause of regret to find how extensively the principles we have expressed in this section are disregarded. Even in some well-informed circles there exists

lamentable ignorance or extreme carelessness as to the proper method of cooking animal food so as to utilize its most valuable constituents.

COFFEE AND TEA.

It will probably not be questioned that there are certain physical organizations that are injured by these drinks, and that strong tea and coffee are injurious in a greater or less degree to all classes of persons. But there is much difference of opinion in regard to the effects the general use of these articles has on the physical organization. We shall not, therefore, attempt to determine to what extent, if any, they may be used with impunity, but submit an extract from an article on this subject by Dr. Ellis, in his valuable little book on "Avoidable Causes of Disease":

"Coffee causes a great variety of symptoms. It causes a peculiar form of headache which commences in the morning, gradually increases until the middle of the day, or later, and then declines. Both coffee and tea palliate or allay the symptoms they cause, and patients always suffer from such symptoms for several days when they discontinue their use. Coffee excites the bowels to unnatural activity, and consequently weakens the digestive organs. It often entirely destroys the appetite for breakfast, especially with children. It excites more powerfully than almost any other substance in use the sexual propensity, and is a fruitful cause of licentiousness; and this over excitement is followed by premature impotency.

"Tea causes headache, violent palpitation of the heart

and a peculiar gone feeling at the pit of the stomach. These symptoms are worse when the patient has been some time without tea, and are ameliorated when he again partakes.

“Coffee and tea excite the nervous system and brain, hasten on a premature, but consequently imperfect, development of both body and mind. If parents will persist in using these injurious substances themselves, I do not think they have a moral right to give them to their children, thereby polluting their natural appetites, giving rise to an unnatural craving for these substances, the use of which will do incomparably more injury to the growing organizations of the young than to those of adult men or women.

“Multitudes suffer from nervous and sick headaches, palpitation of the heart, goneness at the pit of the stomach, loss of appetite, derangement of the stomach and bowels, etc., from the use of coffee and tea, without ever suspecting that these beverages injure them; in fact, feeling all the time that they do them good, because they suffer when they attempt to leave them off, for they palliate or alleviate for the time-being the symptoms they have caused, as do all poisons.

“If parents have no regard for their own health and lives, may it not be a duty which they owe to their children to set them a better example than to use these substances before them? Every one can but see, upon reflection, that it is very wrong to allow children to use these poisons.

“But we are told by some that tea and coffee contain more or less nourishment. Well, supposing they do, and so do the body and head of a rattlesnake; but if we were to steep up his snakeship, head, poison and all, and drink the tea, we might perhaps pay dearly for our folly. The deadly nightshade, hemlock, henbane and

all poisonous plants, when analyzed may be found to contain more or less of materials which are useful for food, but they also contain substances which are poisonous, and therefore they are unsuitable for food or drink. The nutritious portion of tea is in a great measure, if not entirely, insoluble, so that if we do not eat the leaves, we fail to get the nourishment they contain.

"The physician who is aware of the symptoms and diseases which tea and coffee so frequently cause, and has seen such symptoms and diseases gradually abate when the use of these beverages has been discontinued, as I have, can have no doubt about their being improper articles, especially for children, to use.

"Cold drinks are more invigorating than warm, and are generally preferable except at meals. There are persons who are in the habit of drinking freely at their meals (a bad habit by the way) who cannot use cold drinks with impunity, and, perhaps, they are best for no one; but surely there is no excuse for taking tea and coffee so long as hot water, milk and sugar are more plenty and cheaper than either.

Since people will use such things, it may be well for them to know pure green tea is the same leaf as the black but more quickly dried and in good qualities is not more injurious. But inferior sorts faced with a preparation of Prussian blue, gypsum and indigo are decidedly so.

Flavored teas have been exposed during manufacture to the aromatic essences of plants, but though rendered somewhat more agreeable are not of higher or lower chemical or dietetic value.

Preparation—To make tea, especially for the dyspeptic, it should only be infused in boiling water three minutes and then poured off into a heated teapot so as to separate it from the leaves. Thus prepared tea is not so likely to cause flatulence, but it is less economic than the

ordinary method, much more tea being required. Soft water makes the best tea, but soda should not be used, for it only extracts the astringent tannin, while at the same time it "spoils the tea," both in flavor and beneficial effect. The water should only boil once, immediately before using it and not for hours as is sometimes the case; the teapot should be quite *dry* as well as hot when the leaves are put into it and the infusion as before stated, not allowed to exceed three minutes.

Teapots that retain the heat are better than those that allow it to pass off readily; hence black earthenware teapots should not be used; white, glazed earthenware, or porcelain, are suitable; but brightly polished silver teapots are the best, for they radiate much less heat than any other material.

Addition of Lemon—The use of sugar in tea, except in small quantity, should be given up by persons who have a tendency to become corpulent. Many persons consider the flavor of tea improved by substituting lemon for cream or milk, pouring the hot tea over a slice of lemon cut with the rind upon it. Besides being more palatable, the lemon-juice more effectually allays thirst and is especially valuable at those seasons of the year when fruits and fresh vegetables are not generally to be obtained.

The following mode of preparing tea is highly recommended: Pour tepid or cold water enough on the tea to cover it, place it on the stove-hearth or any place where it will be warm, but not enough to cause the aroma to escape in steam. Let it remain about half an hour, then pour on boiling water and it is ready for use.

A most important point in making good coffee is to use a *sufficient quantity* of the powder. The minimum or smallest amount that should be allowed is one and one-quarter ounces to a pint of water. The *café noir* of the

French contains a larger proportion than this. It is especially necessary to remember that the full qualities of coffee are not obtained if water is used at a temperature lower than that of the boiling point. It even bears boiling, which tea does not. When mixed with chicory, boiling for a short time improves the flavor. The particles of ground coffee are often found suspended in the liquid and ising-glass or white of egg is sometimes used to refine it. Nothing, however, is required beyond pouring a cupful out and returning it to the pot to effect the necessary clearing.

It is well known that French cooks are famous for the excellence of the coffee, which they make so strong that one part of the liquor requires the addition of two parts to reduce it to the proper strength. This addition is made with hot milk. The large proportion of hot milk, in the place of so much warm water, gives the coffee a richness like that made by the addition of cream, in the ordinary way. By this means any house-keeper desirous of making good coffee can have it without cream.

After being roasted, coffee should not be kept long before it is ground. This is usually done in a coffee-mill or it is pounded in a mortar. In either case the mill or mortar should be used for no other purpose, as coffee has a marked tendency to absorb other odors and thus to acquire a flavor not its own.

Lastly, when ground it should be used as soon as possible, for in this state it rapidly gives off its volatile oil. The best method for keeping it for a short time is in a clean, accurately-stoppered bottle. Lead or tinfoil covering does not so effectually retain the virtues of the ground coffee.

Chicory—With this coffee is generally mixed, to which it gives color and body. Its properties are simi-

lar, but inferior to those of coffee; so that it rather lessens its value, while it modifies its flavor.

Preparation—To produce from cocoa-nibs one of the most wholesome and nutritious of beverages, the following method is recommended: For two persons, take of recent nibs a small teacupful and soak in one quart of water overnight; next morning boil briskly for two hours, then strain off and use directly, with boiling milk. It should not be re-warmed, as it then loses its flavor, just as tea does when warmed up again. As a breakfast beverage they are much superior to tea or coffee; for although they are mixed with sugar, arrow-root and other kinds of farina, they are not adulterated in the sense of containing any deleterious ingredient.

CONDIMENTS.

Pepper, Mustard, etc.—Pepper, mustard, horse-raddish, ginger, allspice and nutmeg, together with some other articles, form a class of irritating substances that are constantly in use under the name of condiments and are in some way or other mixed up with the food of which we are almost daily compelled to take, for we can scarcely find a dish that does not contain more or less of these injurious substances. Our cooks, especially at hotels and boarding-houses, cannot leave each individual to season his food with *such* trash, or not, as he may prefer, but must take upon themselves the liberty of seasoning our food with these vile drugs, until it has become an *unbearable* nuisance to every one who desires to live as he should, with his stomach uncontaminated

with these miserable irritants. If any one questions whether it be injurious to take such irritating substances into the stomach, let him retain them in his mouth or put them in his eyes or nose. Yes, further, let him moisten them with water and apply them to the external skin, and even then he will find that they will create unnatural irritation of the surface and several of them will blister the skin and cause ulcers. Now, is it unreasonable to suppose that they will injure his stomach when taken internally? He may not feel a similar smarting and pain in his stomach to that which he experiences when they are applied to his eyes, mouth or external surface of his skin, simply because the stomach is not supplied with the nerves of sensation; but the effect on it is nevertheless the same. Many cases of dyspepsia and chronic inflammation of the stomach are caused by these irritants. When taken, even in moderate quantities, they act as local stimulants, causing an unnatural flow of blood to the mucous membrane of the stomach, which increases the secretion of the gastric juice, and that produces an unnatural, craving appetite; and the result is, the individual eats too much—more than the system requires and more than the stomach can digest. This undigested food then acts as a foreign body and causes diarrhea and various other derangements of the stomach and bowels, and the poor victim wonders what has made him sick. But when these things are not taken in sufficient quantities to produce this immediate effect, yet their constant repetition at almost every meal sooner or later exhausts the vital energies of the stomach and it is prematurely worn out. The whole organism, failing to receive its proper nourishment, also fails and the result is premature old age and death.

And even in case the individual should escape disease

and death, as a result of the use of these stimulants, he is liable to be cut off by disease which these poisons cause, for their effects are not spent entirely on the stomach, but they are absorbed into the circulation and flow through the entire system, producing deleterious effects on the whole body. Parents have not the right to expect that their children will grow up temperate, virtuous and good—to say nothing of their physical health—when they are permitted this abuse of food. In reference to the effect these condiments have on the taste, the facts are, they render plain and wholesome food insipid, by destroying the natural acuteness of the taste. Pies, as well as many other articles of food, filled with these substances, are far inferior to those without them, except it be to those whose tastes are perverted and unnatural. This fact can be easily demonstrated by giving a child who has a healthy palate the two kinds of food to eat, and you will soon see which he will prefer; so that nothing is gained in this respect from the use of these substances, save the loss of taste and of a natural appetite.

Soda, vinegar, etc.—All alkalies, except such as are naturally contained in our food, should be avoided during health, for they impair the power of the stomach to digest the food, by destroying or neutralizing the natural acidity of the gastric juice, without which digestion cannot be performed.

Soda, in excess, impairs digestion and injures the stomach; soda-water should, therefore, not be used, or very sparingly at most.

Acids are less objectionable than alkalies, but if used at all, should be used very moderately, except in certain states of the system, as in scurvy, when vegetable acids are very beneficial.

Vinegar, is a very doubtful article of diet, to say the

least, and if used at all, it should be very sparingly, and that derived from fruits and vegetables, instead of the product of decomposition.

CHEWING GUM.

The habit of chewing spruce or any other gum is not only filthy and unpleasant, but is also destructive to health, and parents cannot be too careful to guard their children against it. If the chewer spits the saliva from his mouth its loss weakens and exhausts his whole system and seriously impairs his digestion; for the saliva contains important properties which are all needed and are essential in the process of digestion. If the saliva is swallowed, impregnated as it is with the stimulating properties of the gum, it causes inflammation of the stomach, and often serious and troublesome diseases of this character are thus caused. It also not unfrequently leads the young to the use of tobacco.

FREQUENCY OF MEALS.

Three times a day is as often as we can safely take food, especially substantial food, like bread, meat, potatoes, and the like; and this rule should be followed in health or sickness. The habit of eating often, and but little at a time, during sickness, has resulted in the death of many persons. Taking food oftener than three times a day is not allowable with patients, except sometimes

in case of slightly nutritious fluids. It is surely unreasonable to suppose that the stomach of a sick man can stand an amount of abuse that would make a well man sick. It takes about four hours of time for the stomach to dispose of an entire meal, and carry it into the upper portion of the intestines; after which, at least, an hour should elapse before taking the next meal, in order to let the organs of the stomach rest and recuperate. Therefore, no two meals should be nearer together than five hours. Food that is taken into the stomach before this organ has got rid of the preceding meal must, of course, to a greater or less extent, mix with the latter, which is already digested, and is liable to be hurried along into the intestines undigested, there to ferment and give rise to different disorders, such as diarrhea, flatulence, colic, etc. Many of these troubles among children, as well as adults, originate from nursing or feeding them every hour or two. Some people breakfast in the morning from eight to nine o'clock, lunch from twelve to one, and dine from four to five in the afternoon; thus bringing their three meals within about eight hours, and taking nothing during the remaining fifteen or sixteen hours. We are familiar with some places in the United States where this custom is very common; and the people among whom this practice prevails are of the number of those who imagine that the blood, coursing through their veins, is of a far superior character and quality to that which animates the "common herd." We found more sickness and premature deaths in this locality than among any other class of people elsewhere with whom we ever came in contact. When it was our misfortune to sojourn among them, we were compelled to suffer the infliction of taking our meals out of season; but the reader may rest assured that we did so with a strong mental protest, and with the not unfrequently recurring

thought that, if people did not know enough to eat their meals at the proper time, it was a matter of small consequence to the world whether they lived or died.

Dinner, or the "strong meal"—Of the three meals of the day, the last one should be the lightest, most simple and easiest of digestion. It is a query where the most reprehensible custom of having the dinner, or "strong meal," the last one of the day originated. It has no foundation in reason, good sense or common prudence. Even the lower orders of animals exercise a higher order of judgment in this matter than some of the boastful "lords of creation."

Regular eating—Half of all ordinary diseases would be banished from civilized life if everybody would eat but three times a day, at regular times, and not an atom between meals, the interval being five hours, four of which are required to digest a full meal and pass it out of the stomach. If a person eats between meals, the process of digestion of the food already in the stomach is arrested, until the last which has been eaten is brought into the condition of the former meal; just as if water is boiling and ice is put in, the whole ceases to boil until the ice has been melted and brought to the point, and then the whole boils together. But it is a law of nature that all food begins to decay after exposure to heat and moisture for a certain time. If a meal is eaten, and in two hours another, the whole remains undigested for seven hours, before which time the rotting process commences, and the man has his stomach full of carrion—the very idea of which is horribly disgusting. As, then, all the food in the stomach is in a state of fermentative decay, it becomes unfit for the purposes of nutrition and for making good, pure blood.

The hands and feet must have rest, and so with the muscles of the stomach; they can only rest when there

is no work for them to do—no food in the stomach to digest. Even at five hours' interval, and eating three times a day, they are kept sufficiently at work from breakfast until the last meal is disposed of, usually ten o'clock at night. But multitudes eat heartily within an hour of bedtime; thus, while the other portions of the body are at rest, the stomach is kept laboring until almost daylight, and made to begin again at breakfast-time. No wonder it is that the stomach is worn out—has lost its power of action. Many girls become dyspeptic before they are out of their teens, in consequence of being about the house and nibbling at everything they lay their eyes on that is good to eat.

CONSTIPATION.

The bowels should move once a day when the system is in a healthy condition; and if proper attention be paid, such as evacuating them at a regular hour, and never varying the hour, which is all important, with suitable exercise and diet, they will rarely fail to move once in twenty-four hours. But no very serious consequences will result if they do not move daily.

Some of the most intelligent medical writers assert that "costiveness, when not aggravated by the frequent use of cathartic remedies, is rarely the cause of disease; and that danger from this source is very much overestimated, the representations of patent-pill manufacturers to the contrary notwithstanding."

Let this fact be remembered, that costive people usually live to grow old, if they do not commit suicide by taking

physic. It is a fact that many tailors, shoemakers, sedentary and indolent individuals, do not have a passage more than once a week, and even sometimes once in two weeks, and yet enjoy apparently good health.

Dr. Ellis says he has "known a man to go forty days without a passage from the bowels, and perform duty as a sailor, without disease resulting." Such a condition of the bowels, surely, is not desirable, and can and should be avoided without taking carthartics.

Costiveness can never be cured with carthartic medicines, for the reaction of the organism is in the wrong direction; besides, they weaken the organs which should be strengthened.

During a run of typhoid fever, patients have been known to go without a passage from beginning to the end, lasting a period of three weeks, and yet get along well. In this disease, after the termination of a previous diarrhea, they have been known to go from one to three weeks, and in one instance as many as four weeks without a movement of the bowels, and get along well and without any injurious consequences.

The frequent action of the bowels in fevers and various acute diseases, is not so essential as many suppose.

In certain inflammations of the bowels, the life of the patient often depends on the bowels remaining costive until the inflammation is subdued. Not a few patients have been hurried into eternity by an ineffectual attempt to force a passage in acute inflammation of the bowels, who would have recovered had not such a course been pursued.

Our most intelligent physicians are rapidly discountenancing the use of both carthartics and emetics, and substituting milder measures.

The means of relieving costiveness has been given in the first volume.

SELF-POLLUTION, SELF-ABUSE, MASTURBATION.

These are various names given to the unnatural and degrading vice of producing venereal excitement by the hand, or other means, generally resulting in a discharge of semen in the male and a corresponding emission in the female. Unfortunately, it is a vice by no means uncommon among the youth of both sexes, and is frequently continued into riper years.

The following are some of the symptoms that the child or individual manifests who is addicted to the habit: Inclination to shun company or society; frequently being missed from the company of the family, or others with whom he or she is associated; becoming timid and bashful, and shunning the society of the opposite sex; the face is apt to be pale, and often a bluish or purplish streak under the eyes; while the eyes themselves look dull and languid, and the edges of the eyelids often become red and sore; the person can not look any one steadily in the face, but will drop the eyes, or turn away from your gaze as if guilty of something mean.

The health soon becomes impaired; there will be general debility, a slowness of growth, weakness in the lower limbs, nervousness and unsteadiness of the hands, loss of memory, forgetfulness and inability to study or learn, a restless disposition, weak eyes and loss of sight, headache and inability to sleep, or wakefulness. Next come sore eyes, blindness, stupidity, consumption, spinal affection, emaciation, involuntary seminal emissions, loss

of all energy or spirit, insanity and idiocy—the hopeless ruin of both body and mind! These latter results do not always follow. Yet they or some of them do often occur as the direct consequences of the pernicious habit.

The subject is an important one. Few, perhaps, ever think, or ever know, how many of the unfortunate inmates of our lunatic-asylums have been sent there by this dreadful vice! Were the whole truth upon this subject known, it would alarm parents, as well as the guilty victims of the vice, more even than the dread of the cholera or small-pox.

Preventive Measures—When the parents are satisfied that their child is indulging in this habit, *take immediate measures to break it up*. It is a delicate matter for parents, especially for a father, to speak to his son about. It is different with the mother: she can more readily speak to a daughter upon subjects of that nature, and, if guilty, portray to her the danger, the evil consequences and ruin which must result if the habit is not at once and forever abandoned. If persuasion and instruction will not do, other measures, such as will prove efficient, must be resorted to.

In case of a son, perhaps the better way will be for the services of the family physician to be engaged. He can portray to the misguided young man the horrors and evils of the habit in their bearing, and his caution and advice will have weight.

An examination of the linen generally affords conclusive evidence in the case of boys; the genital organs of these patients, it may be noticed, too, receive an undue share of their attention. The patient should be constantly watched during the day until he falls asleep at night, and be required to arise directly he wakes in the morning. In confirmed cases the night-dress should be so arranged that the hands cannot touch the genital organs.

Under no circumstances should nurses ever be permitted *unnecessarily to handle or expose the genital organs of children*, and children should be taught at the very earliest period that it is immodest, and even wrong, to handle the parts. When at school, as well as at home, *every boy should have a separate bed*. The neglect of this important advice is a frequent cause of bad habits being taught and practiced. In addition to a separate bed, he should be able to dress and *undress apart from the observation of others*. The necessary privacy may be secured by partitions placed between the beds, but not extending up to the ceiling, so as to interfere as little as possible with the ventilation. One of the few articles necessary in the sleeping-room is a *sponge-bath*. This, with a good-sized piece of honeycomb sponge, and a large towel or sheet, complete the outfit. The regular, daily use of the sponge-bath conduces greatly to the cure or prevention of self-abuse. The too free use of meat, highly-seasoned dishes, coffee, wine, late suppers, etc., strongly tend to excite animal propensities, which directly predispose to vice. Probably most persons in health, enjoying ample means, eat and drink too much. Strict temperance, both in eating and drinking, is a great preventive. Soft beds and too much sleep are also to be avoided.

The cultivation of pure thoughts and conversation among the young would remove occasions of great temptation to sin. Parents, guardians and teachers should exercise a strict supervision over the books that are read.

The establishment of systematic exercise, at home and at school, athletic sports and proper books are highly useful, for they pre-occupy the mind, and so prevent loose thoughts and habits.

ALCOHOLIC LIQUORS.

Alcoholic Liquors as a Cause of Disease—Those who die from the direct effect of intoxicating liquors—that is, of delirium tremens or drunkenness—comprise but a small portion of those who go down to their graves from this cause, for it is a fact well known to the medical profession, that those who use stimulating liquors are far more liable to be attacked with any prevailing disease and the fatality is also much greater in such cases than with those of temperate habits. As a general rule, throughout the world, the first victims of cholera are drawn from those who use stimulants. The same is true in cases of sunstroke, chronic inflammation of the stomach, headache, diseases of the liver, jaundice, dropsy, impotency, gout, colic, peevish irritability, febrile diseases, epilepsy, apoplexy, loss of memory and mania. These are some of the diseases that afflict the rum-drinker and the habit is one of the most prolific causes known of lunacy. In England, Lord Shaftesbury, chairman of the commission on lunacy, states in a parliamentary report that six out of ten of the lunatics in their asylums are made so by the use of alcohol.

Adulterated Liquors in this country count their victims by the thousand. Wines, said to be the least injurious of the stimulants, contain the adulterants in a very great degree. Many of them contain but little of the juice of the grape and some of them none at all. They are manufactured from dye-stuff, drugs and alcohol, with that most dangerous article, lead, added, to

render them clear and prevent their becoming sour. Hence their use in any quantity can only be injurious to health and destructive to life.

Alcoholic liquors not essential in medicine—

Dr. John Ellis, of New York, says, "I can say that, after devoting over eighteen years to the study and the practice of medicine, I have never seen eighteen cases in which the use of alcoholic drinks have done my patients good. I have never seen a patient recover under their use, that I had not good reason to think would have recovered without them.

I have frequently been called to see feeble persons, especially females, who had been taking wine, beer, brandy and the like for years, to strengthen them, and still they remained weak; and I have found that such patients improved when they were required to live on a proper diet and discontinue their stimulants. So far from being strengthened they had actually been debilitated by their use.

The celebrated Dr. Edmunds, of London, makes the following statement in his writings: "The cases in which I use alcohol in my practice I confess become less and less frequent every day. And I should feel that I lost very little were I deprived of it altogether." It is probable that there are conditions or states, in some few diseases, where stimulants of this character may do some good; but the great difficulty is to know exactly when this condition or state occurs; and there is usually more or less disagreement on this point among physicians. And when they do not effect good, they usually aggravate the disease, and result in harm; for all undue excitement is necessarily followed by corresponding depression, and thus thousands are sent to a speedy grave in consequence of it. How can it be otherwise? Can a man, who is prostrated to the very lowest ebb of

life, stand a course of stimulation whose reaction all experience shows, will prostrate a well man? Take, for example, a most critical case, in which the patient is for days in a state where he can barely live without stimulants, and now let him be given these, and an unnatural state of excitement will follow, or a degree of activity above that which the exhausted organism is capable of sustaining; as a necessary consequence, corresponding depression must follow; and if the patient was barely at the living point before the prostration, which is sure to follow, he must now sink below that point. It may be asked, can not this state of excitement be kept up by the use of stimulants for days, until the patient recovers? If space would admit, we might logically show that this can rarely, if ever, be done.

Alcoholic liquors afford neither muscular strength nor nutriment—It is a law of the animal economy that any substance or food must, when taken into the body, be changed or decomposed into its elements before it can yield to the body those forces which produce muscular strength. Now the facts are that, when alcohol is taken into the body it leaves it again as alcohol undecomposed, there being no change wrought upon it. It therefore cannot have given up those elements that are needed in order to supply nutriment and and muscular force. As an evidence that alcohol thus leaves the system undecomposed and without any change, you have but to give an individual a few table-spoonfuls and you can shortly afterwards smell its vapor as it is emitted from the pores of the skin. You can, as easily and definitely, reproduce and demonstrate the presence of alcohol by the exhalations from the skin and lungs, as you can the presence of arsenic in the body of a person who has been poisoned by it. Food is that which is decomposed in the body and supplies it with

the forces which the body afterwards gives out. If your horse is tired by its journey, you give him a feed of corn and time to digest it, and he goes into the harness again as vigorous as ever and ready for the next stage. What is it that has taken him along through the second stage? It is the corn which has served as food to the animal, and has been decomposed in his tissues, just as the coal would be put into a locomotive furnace when the fire was going down. Now, suppose, instead of giving a horse a measure of corn, you give him a liberal allowance of whip, which is a stimulant? The horse goes on and works until more completely exhausted; and just so with a man. Now, it should be recollected that food puts strength into a man by giving substance to supply waste, but alcoholic stimulants abstract strength from a man. They excite but to exhaust. Then recollect that when you employ stimulant, you are using that which will exhaust the last particle of strength with which your body otherwise would not part. That is what we always do when we work on stimulants; it is obviously unnatural, and therefore injurious. The foregoing statement being true—that alcoholic liquors furnish neither nutriment nor muscular strength—it must logically follow that their use is unnatural and injurious.

Alcohol an enemy to prosperity—To illustrate the beneficial effects that flow from curtailments of the use of alcoholic liquors, we give the following facts which were submitted by the clerk of the circuit court of Edwards County, in the State of Illinois, some time since:

“There has not been a licensed saloon in this county for over twenty-five years. During that time our jail has not averaged an occupant. This county never sent but one person to the penitentiary, and that man was sent up for killing his wife, while drunk on whisky obtained from a licensed saloon in an adjoining county.

We have but very few paupers in our poor-house, sometimes only three or four. Our taxes are thirty-two per cent. lower than they are in adjoining counties, where saloons are licensed. Our people are prosperous, peaceable and sober, there being very little drinking, except near Grayville, a licensed town of White County, near our border. The different terms of our circuit court occupy three or four days each year, and then the dockets are cleared."

TOBACCO.

Tobacco a poison—No one will question the fact that tobacco is a poison who has observed the deadly sickness it usually produces when chewed or smoked by those not habituated to its use. There are but few substances in nature that are capable of destroying life so suddenly as tobacco. From one to two drops of the oil have frequently been administered to dogs and cats, and invariably, in a few minutes, life became extinct. Dr. Franklin applied the oily material which floats on the surface of water when a current of tobacco smoke is passed into it, to the tongue of a cat, and found it to destroy life in a few minutes.

Tobacco a cause of disease—Tobacco is a frequent cause of disease of the digestive organs, lungs, nervous system, head, eyes and brain. It causes heartburn, nausea and frequent belchings; pains and diseases of the liver; pains in the bowels, with disposition to diarrhea or costiveness. It causes, too, difficulty of breath-

ing, oppression of the chest, pains in the chest, with inability to take in a long breath, and violent palpitation of the heart, as well as pain and stiffness of the back. Tobacco also produces a tendency to paralysis, causes drowsiness, unnatural sleep, nightmare, troublesome, anxious and frightful dreams, and a great number and variety of affections which we have not space to mention. In fact we have noticed but a small proportion of the diseases which are asserted by some of our best medical writers to spring from the use of tobacco. Of course it affects different persons in different ways, searching out and seizing upon those parts of the body which are least able to resist its destructive force.

Yet there is seldom any one who habitually uses tobacco but will find himself troubled, more or less, by the symptoms of the above named diseases as soon as he stops its use ; but while using it freely it will palliate or allay, as do all poisons, the symptoms its use has caused. Not unfrequently on rising in the morning, after having abstained from its use during the night, he will get a slight glimpse of his waning vital energies ; but his view will soon again be obscured when he partakes of the alluring leaf.

The senior physician to the Metropolitan Free Hospital, in London, writes as follows : " I can testify, from long observation, that the chronic use of tobacco in any form is a very prevalent cause of debility and manifold diseases. Take, first of all, the sense of sight. One of our most celebrated London ophthalmic surgeons tells me that he is continually consulted by young gentlemen for weakness of vision, caused by smoking ; and I myself have, in many cases, seen the prolonged use of tobacco, especially when it is chewed, cause the total loss of sight. Then take the circulatory system, and we find smokers subject to palpitation of the heart, and

far less able to bear up against extremes of heat and cold than they were before making use of tobacco. The use of tobacco is apt to cause a relaxation of the muscles of the back of the mouth, and dusky discoloration of the fauces, with hoarseness from congestion of the vocal cords. The overwhelming majority of cases of cancer of the lip are found in men who smoke, and cancer of the tongue has often been said to be caused by the irritation of the fumes of the pipe or cigar. Great smokers lose, to some extent, their vivacity; *i. e.*, they are less vital than they used to be, and less easily moved by a slight 'stimulus' which might be pleasurable to non-smokers. They are notoriously dyspeptic. I need hardly refer, indeed, to such a well known fact. They are subject to constipation and 'malaise;' and when deprived of their stimulus are more miserable, perhaps, than even drinkers. I must take the liberty to protest against a custom which has been inveighed against by Brodie, Copland, Critchett, Guerrin, Mantegazza, Caccopardo, and numerous heads of my profession in all countries."

Mental effects—*Softening of the Brain*—Mr. Solly, an eminent writer on the brain, said once in a clinical lecture on that frightful and formidable malady, softening of the brain, "I would caution you as students against the use of tobacco, and I would advise you to disabuse your patients' minds of the idea that it is harmless. I have had a long experience in brain-diseases, and I am satisfied now that smoking is a most noxious habit. I know of no other cause or agent which tends so much to bring on functional disease, and through this in the end to lead to organic diseases of the brain as the excessive use of tobacco."

The influence of tobacco on the human system is quite as much to be dreaded as the use of alcoholic drinks.

Drunkards invariably are tobacco-users. Not one young man in a hundred would ever even think of using intoxicating liquors did he not first learn to use tobacco in some form. Daughters of drunken fathers do not inherit a hankering after spirituous liquors; neither would the sons, did they but abstain from the use of tobacco. And yet ministers of the gospel and many of the deacons of our churches, good men, so-called, who preach temperance and cleanliness to the youths of the land unceasingly, keep their mouths filled with the vile stuff or make smoke-houses of their heads, as if the end and aim of life with them was to pickle their tongues in smoke; and their whole bodies are so saturated and polluted with the vile stuff that their neighbors' nostrils announce their coming afar off. Is it to be wondered at that so many of our young men, following in the steps of their illustrious fathers, learn to use tobacco and cultivate a taste for stimulants which at last becomes a direful disease and then finally die lunatics or drunkards?

The smoking of a single cigar, and especially by those not long habituated to its use, will increase the pulse from ten to fifteen beats. The results of both chewing and smoking often are depression of spirits, irritability, peevishness, loss of memory, dullness of perception and despondency, as a natural result of over-excitement. The teachers in our institutions of learning not unfrequently observe that those young men who use tobacco, as a general rule, are much more dull and stupid than those who do not; and they, as well as eminent physicians, have expressed the opinion that tobacco to-day is doing almost as great a *physical* injury to the present generation as alcohol.

Sudden death—Dr. Twitchell states that nearly all the cases of sudden death, occurring during sleep, which came under his observation, were those of persons who

had indulged largely in the use of tobacco. And, subsequently, the correctness of his statements was confirmed by investigations made by the Boston Society of Medical Observation.

Physical effects—The use of tobacco produces marked alterations in the most expressive portions of the face. In consequence of the constant use of the muscles surrounding the mouth, there is occasioned an irregular development of these parts, which presents a coarser appearance when compared with the rest of the features. The eye loses its natural fire and becomes dull and vacant, and the skin assumes a sallow complexion.

Uncleanly—To say that this habit, with many, is uncleanly and even filthy, is only repeating what is expressed every day. The linen, the mouth, the breath, and many times the room of its victim, indicate the effect it produces.

Moral effects—The use of tobacco has a tendency to impair the taste, so that simple fluid and simple diet are liable to become insipid and unpalatable, and the natural resort is then to the “flowing bowl.” It also excites the various animal propensities beyond their proper balance, and tends to debase the moral character and make man more animal and less intellectual.

Expensive—Tobacco, in its different forms, costs the people of the United States more than \$30,000,000 annually, all of which is far worse than if thrown away. It is not a natural food for man; it will not sustain life, but is a poison, and all its tendencies, except in rare cases, are to destroy life. Is it any wonder that we cry *hard times*, when there are hundreds of millions of dollars annually thrown away for tobacco and intoxicating beverages? Those who are so adroitly seeking for the cause of this condition of affairs, would they but take the trouble to examine the statistics and investigate *this*

matter, would find herein one cause for this great depression that has been more potent than all others combined.

Young men and boys—Tobacco has utterly ruined thousands of boys, inducing a dangerous precocity, developing the passions, softening and weakening the bones, and greatly injuring the brain and nervous system. A boy who early and freely uses tobacco never is known to make a man of much energy of character, and generally lacks mental and physical energy. The larger proportion of the aged, and those of mature years, very much lament that they were led to indulge in this habit. This should be a solemn warning to the young not to fall into the same error. Many boys have erroneously conceived the idea that to “puff” a cigar or cigarette, or chew a quid of tobacco, *is manly—is genteel*. Yet, if they did but know, in what *contempt* such a course is held by the thoughtful and considerate, there would never be a repetition of it. I fancy I hear some young reader remark, “*My father used tobacco many years, and died an old man; if tobacco killed him, it was a very slow poison.*” I am apprised of the fact that some men of strong constitutions, active life and otherwise good habits, may use tobacco and alcohol, and even get drunk often, and yet live to a good old age; but they are exceptions to the general rule; a much greater number will die young.

Besides, it will be found that most of those who lived to an old age, did not commence the use of these poisons very young; else, they used them moderately, and were never what we call hard drinkers or smokers. And we would further say to this young man, that, if he were born after his father commenced using tobacco, he does not, for that very reason, if not for others, possess his father’s strength of constitution, if the latter used tobacco as freely as most young men use it to-day; neither can

he follow in his father's foot-steps without the chances of filling a premature grave. How many of us are to-day suffering from parental errors in consequence of the iniquities of fathers being visited on their children!

Concluding—Tobacco not only destroys the health, but paralyzes youth in its vigor, and manhood in its strength. It produces consumption, feeds dyspepsia, cherishes nervous diseases and palpitation of the heart, embraces liver complaint, creates cancers, encourages headache, engenders weak eyes, invites disease and promotes softening of the brain. Its foul perfumes invade every railroad coach, street-car and omnibus-line; contaminate hotels, boarding-houses and private apartments; its stench invades the family and social circle, and nauseates the mother, sickens the wife and insults the daughter; it extinguishes the affections of the doting lover, offends the young bride and disgusts the young maiden. It produces weakness, not strength; sickness, not health; death, not life. It weakens the digestion, perverts the taste and leads to intemperance. It creates an offensive breath, repulsive mouth and soiled linen. It impairs the voice, furrows the cheek and sallows the complexion. And last, but not least, it makes angry mothers and scolding wives.

COD-LIVER OIL.

The value of this agent, in the treatment of many constitutional diseases, is amply confirmed by long experience. It should be regarded as food rather than medicine, although the minute amount of *iodine* and

phosphorus it contains may account for its curative virtues in many cases in which cod-liver oil has been the only remedy given.

The complaints in which cod-liver oil is of service need not be here enumerated, as it is prescribed in numerous instances in these pages. We may, however, state that it is specially valuable in the various forms of scrofula—chronic discharge from the ears, scrofulous sore eyes, enlargement of the glands, scrofulous disease of the bones, strumous abscesses, etc., and, in short, in all diseases which require fatty substances as food, and iodine as a remedy. Its assimilation is promoted, and its beneficial action greatly enhanced by the addition of one drop of iodine to each pint of the oil. This addition is especially recommended in consumption and atrophy, or wasting.

In the treatment of *consumption* it stands pre-eminent by almost universal consent; when given in suitable cases, its power in checking emaciation and raising the tone of the muscular structures is well known.

The value of cod-liver oil is often very marked in the conditions following many acute diseases or inflammations occurring in middle-age and in old persons, in whom the reparative powers are less active than in children; also in the after effects of the acute fevers of children who have suffered, previous to such attacks, from impoverished health, scrofula, etc.—as chronic discharge from the ears and nose after scarlet fever and measles; the after stages of hooping-cough; rickets, St. Vitus's Dance, etc., are generally much benefited by the administration of cod-liver oil. Chronic rheumatism and gout, chronic bronchitis, chronic skin-diseases, and the degenerative diseases of the aged, are all more or less benefited by the employment of this agent.

CAUTION.—Cod-liver oil should not, however, be ad-

ministered indiscriminately. It is generally inadmissible during the persistence of acute febrile symptoms, congestion, bleeding from the lungs or any active form of disease; digestion is then impaired, the mucous membrane irritable, and the oil is only likely to occasion disorder. The sphere of cod-liver oil is to remove exhaustion and increase general tone; this is best accomplished when active morbid processes and local irritation have subsided, for then the system is in a condition to appropriate a larger amount of nourishment.

Some caution is necessary to be observed in the administration of oil to obviate nausea or eructations. Such effects generally result from the quantity or quality of the oil used. The large quantity of oil taken in some cases occasions disorder of the digestive mucous membrane, or it passes off with the evacuations. The appearance of any oil unchanged in the evacuations is a sign that the quantity should be reduced, as more is given than can be digested. We generally recommend it at first, in teaspoonful doses, twice a day, with, or immediately after, food; if the stomach be intolerant of it, a teaspoonful, or for young children ten or twelve drops, once a day. If there be still difficulty in retaining the oil, we prescribe it at bedtime, just as the patient is lying down to sleep. In cases of extreme irritability of the stomach, cod-liver oil may be introduced into the system by friction; a considerable amount of friction, as much as the patient can bear, facilitates absorption.

The disagreeable effects of oil, and the repugnance felt towards it, have often been created by inferior and disgusting preparations, and we fully endorse Dr. Chambers' remarks, who, writing on consumption, says, "To find the easiest assimilated oil, and to prepare the digestion for the absorption of the oil, are the main problems in the cure of consumption" Probably the best method

of rendering the oil palatable is to have it made up in bread, as it is then scarcely tasted. The proper proportion is two to four tablespoonfuls of the oil to one pound of dough. Small pieces of ice in each dose of oil also render it almost tasteless.

Claret or ginger-wine are other vehicles for cod-liver oil. The oil should be poured upon the wine, so that it does not touch the glass, but floats on the wine as a large globule, in which way it may be swallowed without taste. A few morsels of agreeable food should then be eaten. A yet further plan to obviate taste and nausea is to take a pinch of salt immediately before and after the oil. And, if the fish be not unsuitable, one or two teaspoonfuls may be given with a sardine, the oil being poured over in the absence of the child or patient.

SLEEP.

Very few people understand and still fewer appreciate the importance of sound, regular, timely and refreshing sleep. Tissue-waste, the consumption of the entire physical structure, from brain to cuticle, goes on during all our waking hours. Sleep is the time and the only time in which those reparative processes which may overcome all this waste can take place. To lose sleep is, therefore, to lose vital stamina, strength, health and finally life itself. Hunger and thirst are thought to be the most painful modes of death, but the ingenuity of despotism has, we are given to understand, within a few years

past, discovered one still more torturing—and that is death by the loss of sleep. The helpless wretch is put under the charge of cruel keepers, who never allow him, from the date of his sentence, to close his eyes in slumber. He rages, threatens, begs for death in any form—longs for impalement or any active and violent form of torture—raves, blasphemes, and so at last dies in agonies unspeakable.

Sleep is not only the tissue-builder, but the force-giver. Our strength and alacrity for daily tasks, whether of the mind or body, depend upon the quality and amount of our daily sleep; and the amount and quality of the sleep required depend not only upon the severity of those tasks, but upon the perfection of the organism with which we pursue them. The higher the capacity, the more and better is the sleep required. Small and inactive brains, like small and inactive bodies, may perform their functions with much less rest than large and active ones. The sleep required for health is in proportion to the physical and mental strength of the individual. An erroneous notion prevails that sleeplessness is an evidence of mind. It is simply an evidence of the want of mind, since those who have much mind must have a correspondingly large amount of sleep.

Now, it is essential to good and refreshing sleep that it be sound. A light and broken slumber, disturbed by vivid dreams in which the emotional and intellectual powers are generally abnormally active, does not answer the restoring purposes of nature: it neither builds nor strengthens the system; hence, refreshing sleep is necessarily sound. Again, it is a condition of sound sleep that it be regular—that is, that it should occupy pretty much the same hours in every day. Alternate sleeping and waking, during the same hours of successive days, has the effect, often if not commonly, of rendering sleep

difficult, uneasy and insecure. On the whole, if late hours must often be kept, it is perhaps better that the hour of retiring should be uniformly late than occasionally and frequently late; though even this preferable method defeats the evident design of nature, as shown by the declining health of those who, from some peculiar necessity of their occupation, habitually turn night into day and day into night. A few years of useless and hurtful fighting against a great law and they are worn out, and must yield and go back to natural habits or die. Thus we see that these four named conditions of good sleep are vitally connected; that sleep, to be refreshing, must be sound; that to be sound, it must be regular; and that to be regular, it must be timely, or taken at those hours indicated by the order of nature and a once universal custom.

In this respect of seasonable rest Nature has given way to Fashion. Fashionable society means late hours, and all who aspire to enter that charmed circle must conform to this requirement. The modern fine lady must not only have time for her elaborate toilet before making her appearance at any place of evening entertainment, but she must also postpone her arrival to such an hour that, the place being filled, she can attract the greatest number of admiring regards to the splendid elegance of her costume. So theaters, concerts, lectures and sermons must alike wait for her coming, since she it is that gives character and tone to all these assemblies. People who labor and who ought therefore to be in bed by nine or ten o'clock, P. M., must conform to this rule or forego all fashionable amusements. And therefore it is that they are urged by all the well disposed to forego these amusements. It is not that the entertainments are wrong in themselves, but they sin against the health and happiness of all workers, whether with

brain or muscle, by trenching more and more deeply as time goes on upon the hours which Nature has consecrated to repose. If workingmen and women must have amusement—and we concede that they must and should—let them devise it for themselves, within seasonable and proper hours. A persistently and repeatedly broken sleep very soon produces mental derangement; and the directors of asylums for the insane have found, by experience, that regular and early hours are essential to the improvement of their patients; and they require all their balls and parties to close punctually at ten o'clock, P. M. In this respect the insanity of fashion might well be placed under a like wise and judicious direction.

One hour of sleep in the early night is worth two at its end or in the day, for all the purposes of health and strength. If our ladies understood what is undoubtedly the fact, that all their “beauty-sleep” must be gained before twelve, M., there would probably be fewer devotees of fashion among them. The faded, wan and prematurely old women of society owe the early wreck of their once splendid charms more largely to irregular and untimely hours than perhaps to all other causes combined.

MAGNETISM.

Since the reality of the phenomena of magnetism is now conceded, even by those members of the medical profession who were formerly the most skeptical on this point, we think our book would be incomplete without a fair

statement of its powers and methods, and therefore submit the following:

In the first place, and by way of a general introduction of the subject, we extract from the "Cincinnati Medical Advance," for October, 1875, some parts of an address by W. L. Fleming, M. D., which was read before the Homœopathic Medical Society of the county of New York.

"The term animal magnetism has been applied to a subtle force existing in man, which, it was discovered during the last century, was capable of producing upon certain persons, especially somnambulists, effects similar to those produced by the magnet; hence the name: animal magnetism.

"I have myself treated many cases of an inflammatory character, including acute rheumatism, where ordinary manipulation was at first impossible, owing to extreme sensitiveness; but where, by holding the hands lightly over the inflamed part, the sensitiveness has been gradually diminished until full manipulatory action could be carried on with but little or no suffering, and, I am happy to add, in nearly every such case, so far as my memory serves me, the relief has been prompt and permanent. I have frequently dispersed boils, and in one case a large carbuncle, situated in the popliteal space, and which had progressed well toward suppuration, by holding the hands upon them, and using very gentle manipulation. In one instance, where a patient had submitted to a surgical operation for the removal of a duplicate thumb, and was suffering intense pain, I succeeded in entirely relieving the pain for six or eight hours, by slowly passing my hand, *without contact*, two or three times, from the thumb toward the elbow; when, at the end of this time, the pain returned, I repeated the operation, and the patient suffered no more during the healing process. Again: in

the case of a phthisical (consumptive) patient, who had long suffered from an obstinate constipation, and had been in the habit of using enormous doses of purgatives to obtain even temporary relief, I simply administered, once a day, magnetized water; and in two or three days a natural and easy movement of the bowels was obtained; a condition of things which the patient had not before experienced for several years. My method of magnetizing the water was as follows: I held the glass containing the water (as much as the patient desired to drink at one time) in the palm of the left hand, and placing my right hand over and a little above it, with the fingers converged and pointing down, maintained this position from three to five minutes, when the water was sufficiently charged to be administered.

“And still another instance I can give you from my own experience, clearly demonstrating the existence of some peculiar force, capable of exerting a powerful influence upon the human body, without the intervention of active manipulation.

“A gentleman who was visiting at my house, and who had himself experimented considerably with the animal magnetic force, at my request permitted me to try an experiment upon him, which I will here relate. Desiring to ascertain to what extent the nerves could be affected by this force alone, and if it were possible by this means to produce local anæsthesia, I placed him in as easy a position as possible in one chair, with his leg upon another directly in front, and in such a position that there would be no under pressure at any one point. I then made a few passes over the boot and clothing, without touching, from the foot toward the body, and then, with my hands encircling as nearly as possible the limb above the knee, but without contact, I concentrated my will upon this point with the intent to cut off, if possible, the nerve sup-

ply from below this point. After holding the hands thus for a few minutes, he complained of a prickling sensation, which continued for a short time and then ceased. I continued holding the hands in the same position for about fifteen minutes, at the end of which time the leg was completely anæsthetized. There was neither feeling nor motion in it; and it remained in this condition until I made a few passes downward, when the tingling process was gone through with again, and the leg was gradually restored to its normal condition.

“Is there nothing in all this, then, to prove the action of some force independent of mechanical effect? It certainly seems so to me, and I could give many more instances, within my own experience, all tending to demonstrate this fact, and enough evidence of this kind could be obtained from others, if needed, to fill a volume. But the strongest and clearest evidence in support of the existence of animal magnetism, and that the phenomena resulting from its application are due to a fluid or imponderable power (or influence), is to be found in the researches of Baron von Reichenbach on Magnetism, etc. The testimony of this author upon this point, from his name and standing as a scientist, cannot fail to carry with it great weight.

“I shall now proceed to give you the evidence of Reichenbach upon this force:

‘And now our investigation has brought us to the portal of what is called animal magnetism. This *noli me tangere* we shall now be able to seize. When I made a few passes down (with a magnet) the person of Mlle. Sturman, from head to foot, she became insensible and was attacked by spasms, generally rigid. When I performed many passes *with my large rock crystal*, the result was the same. *But I could also produce the same effect by using, instead of the magnet or the crystal, my hands*

alone. The peculiar force (we shall call it crystalline) found both in magnets and crystals, must therefore also reside in my hands.

‘In order to test this more fully I tried the experiments which I shall presently describe. If this were the case, the force residing in my hand must produce all those effects which the crystalline force is capable of producing, as described in the preceding treatise; I could conclude as to difference or similarity, according to the degree of resemblance in the properties observed. It was, first of all, necessary to ascertain whether there existed a coincidence, and to what extent, between the action of the crystals on the healthy or diseased sensitive nerve, and that of the human hand on the same re-agent. When, in the case of persons sufficiently sensitive to perceive distinctly the passes made with a large crystal along the inner surface of the hand, I drew along the left hands of the patients the points of the fingers of my right hand, turned laterally, so that one finger followed the other, and all passed over the same line, which was drawn from the wrist down to beyond the point of the middle finger, there was not one among them who did not perceive the effect, exactly as from the point of a crystal. It was generally described as a cool aura, more rarely as a tepid aura; and was not only as powerful, but usually considerably more powerful than a crystal.

‘I need not here speak of the diseased subjects, since all of those I have hitherto mentioned perceived the effect with the same singular distinctness with which they felt, as a general rule, every magnetic pass; and Mmes. Maix and Nowotny were even able to distinguish the effect of each finger separately. But there were but few healthy persons who were quite sufficiently sensitive for this re-action. Indeed, some of these, who only felt indistinctly the action of the crystals, perceived that of

the fingers, used as above described, so plainly that they could always point it out while the eyes were averted. I am permitted here to refer to my friend, M. Carl Schuh, who is a strong, healthy man, and perceives the action of crystals with unusual distinctness. When, to make assurance doubly sure, and contrary to my own rule, I blindfolded him, and made slow passes with the fingers of my right hand, as before described, over his left hand, he experienced so strong and distinct a sensation, analogous to that produced by a crystal, that he could distinguish each individual pass, and was able, for example, at all times exactly to tell when I had made exactly two-thirds of the whole pass. M. Studer, already mentioned, also perceived this quite as plainly, as well as numerous other persons, among whom I have permission to name one of the finest, most powerful, and hardiest men I have ever seen, who has traveled through Persia and Kurdistan, and twice penetrated from Egypt into the heart of Africa; who is therefore a rare example of iron health and strength of constitution, namely, M. Kotschy, who accompanied M. Russegger in part of his travels. He perceives the effect most distinctly when the temperature of the air is agreeable, and less distinctly when it is cold. *The fingers, therefore, act, as on the sensitive nerve, exactly in the same way as a crystal of middling size.*

‘I compared the two forces with reference to their conductivity. I caused Mlle. Sturman to take hold of one end of a rod of German silver with her right hand, taking care previously to avoid touching it myself. I allowed her some time to become accustomed to the sensation caused by the rod taken alone. I now placed on the other end the points of the fingers of my right hand, which were rather moist. She instantly perceived a warm sensation, and this passed upward as far as the elbow. I now added the fingers of my left hand; the

sensation become much stronger, and reached to the shoulder. I removed my fingers; the sensation rapidly diminished, without, however, instantly disappearing. I next attached and removed my fingers alternately; the sensation kept pace with the changes, increasing and diminishing regularly. On another occasion I requested Dr. Lippich to do the same: his fingers produced exactly the same effect. I tried the same experiments on Mlle. Maix. I caused her to take hold of one end of the same rod, and, after a short interval, I first applied five, then ten fingers to the other end. The warm sensation was instantly perceived and it rose and fell as I applied or removed the fingers. With the whole ten it was so strong as to pass through the whole arm and into the head. I begged her physician to try the same experiment. He did so with the same results, only, although he was ten years my junior, the effect produced by his fingers was distinctly less powerful than that caused by mine. Father Lambert, the confessor of the patient, was accidentally present, and I begged him also to try. She found his fingers as powerful as mine. The nurse of the patient, Mlle. Barbara Pschial, also made the trial. Her fingers caused similar sensations, but much more feeble than that of men. I repeated these experiments, substituting for the rod of German silver an iron wire about five feet in length. When one end was held by the patient and I applied five fingers to the other, the patient perceived a current of decided heat; and with my ten fingers the sensation was stronger. It always quickly disappeared when I dropped the wire out of my hand. This fact was confirmed by frequent repetitions. I next caused the sister of patient, whose nervous system was also in some degree diseased, to apply her ten fingers to the end of the wire. The effect produced was strikingly feeble. The fingers of another female were added to

hers: the effect was sensibly stronger; but the whole twenty fingers together did not produce nearly as much effect as my ten fingers alone, although I have long been gray and bald. I tried also a copper wire nearly ten feet in length. It conducted the force, but less rapidly and somewhat more feebly than the iron wire. The same experiments, with many variations, were repeated with Mlle. Reichel, and with similar results. The action was very powerful in the case of Mlle. Atzmanusdorfer; even M. Studer in perfect health was so sensitive, that he perceived quite distinctly the action of my hands through metallic wires. It follows from all these experiments, *that the force derived from the human hand may be conducted through other bodies, exactly like the crystalline force, and that such bodies are conductors in the same way for both forces.*

‘I now wished to try whether bodies could be charged with the force from the hand. I began with Mlle. Sturman. I laid the German silver rod near her and allowed it to lie for a quarter of an hour. I then begged her to take it in her hand, and thus to become accustomed to the sensation it might cause. After doing so, she laid it down; and then I took it in my hand for some seconds and laid it down. When she took hold of it she felt warm and so strangely charged that the well-known sensation caused under similar circumstances by crystals rose through the hand as far as to the elbow. This was of course repeated with many variations, for the sake of control. Her physician, Dr. Lippich, made a similar experiment. At my request, in another room, he took into his hands for a short time one of two precisely similar porcelain saucers, not touching the other. They were now presented to the patient, who with the greatest facility and accuracy distinguished that which had been held in the hand from the other. After about ten min-

utes the effect was dissipated and both saucers felt alike. The experiment with the rod was soon after repeated with Mlle. Maix, in the same way as above. It yielded the same results: the rod was charged by my fingers and the charge which Mlle. Sturman had felt for five minutes was perceived by the more sensitive Mlle. Maix to the last, gradually diminishing for twenty minutes. In both patients the sensation was the same; one of warmth, rising into the arm and coinciding exactly with that caused under similar circumstances by the rock crystal. I observed the same phenomena some months later in Milles. Reichel and Atzmanusdorfer. The most surprising result is that obtained with a glass of water. If it be taken in one hand and grasped below by the fingers, and if this be continued for about ten minutes, it then possesses, for sensitive patients, the smell, the taste and all the well-marked and curious properties of what is called magnetized water. Those who have never examined the matter experimentally may exclaim irrationally against this. I was formerly myself one of this number, but all those who have tested this fact by experiment and witnessed the effects, as I have done, can only speak of it with astonishment. The water thus changed, which is exactly similar to that treated by magnets or crystals, has therefore received from the fingers an abundant charge of the peculiar force residing in them and retains it for a considerable time. I could after a time produce similar effects on all possible substances by holding them for some time in my hand. The patients, who had tried them all before I touched them, now perceived in all of them the same change as if they had been stroked with the poles of magnets or crystals and this whether they knew of my having touched the objects or had been kept in ignorance of my having done so. It follows plainly from all this *that bodies may be charged*

with the force residing in the hands exactly as with the crystalline force.

‘ In this comparative investigation, however, the luminous phenomena which I have now to describe form both literally and metaphorically a brilliant point. One day, when I was observing Mlle. Reichel, who after severe spasms when in a sort of half sleep with closed eyes, was playing with the magnetic flame, an amusement in which she particularly delighted, I introduced my outstretched hand in the dark, between her and the flame. She instantly began to play, as before, with my fingers and to speak to the bystanders of five little flames which jumped about in the air. She did not notice my hand, but took the motion of my fingers, at the points of which she saw little flames, for a spontaneous dancing of the flames. All those who were present now held up their hands and asked whether fire could possibly also be flowing from their fingers. The flame was visible to the patient on the hands of every male person present, more or less brightly ; but not one finger of a female had sufficient light to show a flame and exhibited at the utmost a feeble glimmer. This was even the case with her own fingers. As long as her illness continued, these experiments were often repeated, in order to amuse her after her fits or for the gratification of many other persons. But when she had recovered it was found that she had the power, which still continues unchanged, of perceiving, not only during her illness, but also in the intervals of apparently strong health, the magnetic flames, the light in crystals and the flames on human hands, if the room were only dark enough. Nay, it appeared that she had possessed this power from childhood. When a child her mother had been often obliged to raise her in her arms that she might convince herself that there was no fire proceeding from nails and

hooks in the wall, as she often spoke of such appearances with exclamations of wonder. There were even two of her brothers and sisters who, in the same way, saw everywhere luminous appearances, where other persons could see nothing. Now, while I am writing this, Mlle. Reichel daily assists me in researches which I am making in this direction, on electricity and magnetism; and we shall see at a future period, from my reports, to what conclusions they have already led and will lead. I was thus enabled, with the aid of this sensitive patient, to study in the most sober and comprehensive manner and for a long time the luminous phenomena seen on the human hand, an investigation which I still daily pursue.

‘Experiments with Mlle. Atzmanusdorfer gave essentially the same results. But she saw the flames of a larger size. While Mlle. Reichel, in her peculiar degree of sensitiveness, described them as being from 0.8 to 1.2 inches in length, Mlle. Atzmanusdorfer saw them in the dark from 2 to 2.5 inches long, that is, almost as long as a finger. Mlle. Reichel made drawings of these beautiful appearances, which I shall give in one of the subsequent parts of this work. The fact established by several observers, *that fiery bundles of light flow from the finger-points of healthy men, in the same way as from the poles of crystals, is sufficient for my present object.*’

“Here, then, we have the most conclusive evidence of the existence in man of the peculiar force called animal magnetism, and also that it is *conductible* and can be *imparted* to all substances. This testimony is all the more valuable, as the facts here stated can be verified at any time by all who may choose to investigate the subject.

“As a therapeutic means, this force has every reason to recommend it to the physician. While it in no way

interferes with the action of a drug, it is efficient where drugs most conspicuously fail; and, as an auxiliary to surgical and medical treatment, it will, when better understood, fill a need that has long been felt. For instance, in those cases where surgical interference is necessary, and yet where the condition of the patient is such as to render an operation unsafe, there is no other means that will so quickly impart vitality, and that will tend so much to insure a successful result as this. And in those adynamic diseases, where the enfeebled system fails to respond to drug action, this force will prove most valuable.

“While the animal magnetic force has proved most efficacious in both acute and chronic diseases, it is in the cure of the latter that it has achieved its greatest success; especially in the treatment of this class of maladies, it is destined to form an important part of the therapeutics of the future; and in those diseases which have proved the least amenable to ordinary methods of cure, it will be our chief reliance.

“In the treatment of that fearful and mysterious disease, insanity, I believe that this force is yet to play an important part. Although my experience in this direction has been limited, and I can not speak with that degree of confidence regarding its efficiency in this, as in other ills to which flesh is heir, yet the result so far attained seems to warrant its thorough trial in this disease. Of the few cases of mental disorder which I have had occasion to treat, during eight years’ employment of this means, one only afforded me the opportunity to continue the treatment a sufficient length of time to be considered a fair test of its merits. In this, a case of melancholia—reported in a former paper—of several years’ standing, in which other means had failed, the treatment was applied less than two months, and resulted in complete recovery.

“In those diseases occurring in scrofulous children, which generally result in deformity, animal magnetism is pre-eminently qualified to take the lead of all other modes of treatment; and I think I may truthfully assert that, in the majority of cases of this kind, deformity may be entirely prevented if this treatment be applied in time.

“In order to demonstrate the action of this force, in this class of troubles, I will here briefly cite a case.

“Charlie B., aged five years; suffering from Potts’ disease of the spine, and white swelling of the knee. Various methods of treatment had been unavailingly employed in his case, and he was rapidly growing worse. When brought to me for treatment he was fast losing flesh, had no appetite, was peevish and irritable. Examination revealed some curvature in the lumbar region, and spinal abscess. The right knee was considerably enlarged and very sensitive. The leg was flexed so that the toes scarcely touched the floor when standing, and motion exceedingly painful.

“After a few treatments there was marked improvement in the appetite, and he soon began to show evidence of returning bodily health. The improvement rapidly continued; and although he wore no brace or support for the spine, the destructive process was arrested, the abscess gradually healed, and in a short time the spinal trouble was entirely cured. It is now nearly five years since I treated this case, and the friends of the patient (who live out of town) inform me that there is no trouble or deformity of the spine, so far as they can perceive. As the treatment was discontinued at the end of nine weeks, the knee, though much improved, has not been cured, as I believe it would have been, had the treatment been persisted in.

“I could cite many cases, showing the value of this

force in various diseases ; but the limits of this paper will not permit. I will merely state that by this means I have cured quite a number of cases of paralysis, nervous affections, and numerous other forms of disease coming under the head of chronic. Many of these cases having first tried the ordinary method of cure without success.

“The results attained by this force in those diseases incident to women, *especially* entitle it to the consideration of the profession as an auxiliary treatment in such cases.

“To conclude : Animal magnetism is a *scientific fact*. If it be not a fact, ‘then do no facts exist in any department of science.’ That it has proved itself a most powerful therapeutic means, is also a fact. Such being the case, the duty of the medical profession in regard to this matter is perfectly plain.”

How to Magnetize.—Select a good subject.

1. One mark of such a person is very fine, soft hair; another is fair complexion, with light, full and expressive eyes and regular and handsome features. Debility of health, also, predisposes to magnetic susceptibility.

2. Choose a person younger and physically weaker than yourself, and by all means of an opposite or different temperament.

3. Select a kind, well disposed and intelligent person.

4. Sit beside or before your subject, preserving an easy and tranquil frame of mind.

5. Be sure that he submits himself passively to your influence and thinks of nothing foreign to the purpose and occasion. He may either close his eyes or fix them steadily upon yours.

6. Hold his hands crossed, his left with your left and his right with your right, the balls of your thumbs touching the balls of his.

7. Have perfect confidence in your ability to put him to sleep in a short time.

8. Use your will, earnestly but calmly, to effect this object, fixing your eyes upon a point midway between his. If convenient, sit so that his extended arms may rest upon your knees.

9. Hold his thumbs until you feel that the heat in both pairs of hands is equal. This will occur within ten minutes.

10. Begin the magnetic process by holding your hands upon his head, lightly, so that the palms shall touch the temples and the tips of the fingers rest upon the top of his head; or place your palms on his eyes and let the fingers rest upon the forehead. Incline your forehead towards his; and, to avoid fatigue, rest your elbows on your knees.

11. Continue thus to charge his head until his eyelids close involuntarily and firmly. However difficult a subject, if you persevere and he does not resist, he must at last succumb. It may take five minutes or half an hour, or as many sittings of the same length of time. It is useless to proceed until you do close his eyelids, and there is no better or speedier method than this.

12. When you have succeeded in closing his eyelids so that he cannot open them without your permission, point your extended fingers, for a short time, in succession at his eyes, forehead, and the top, sides and back of his head, and then to his face, chest and stomach. This, if properly done, will well accomplish the charging processes.

13. Now begin to draw off the magnetic essence with which you have overcharged him, in this way: Move your hands, slowly and gently, down from his head to his fingers, along the inside of his arms, beginning both at the top and back of his head, and from the forehead, over the face, to the stomach and knees.

14. If sleep be not induced or the eyes re-open after closing, close the sitting in half an hour. Repeated trials will infallibly bring your subject into the magnetic state, which will somewhat resemble natural sleep at first. He will improve in susceptibility in proportion to the regularity of the magnetic process.

15. It will be well, for a few of the first occasions, to let him sleep on quietly for a while, and to continue the drawing process for sometime after he falls asleep.

15. Finally, when you deem him prepared for this, speak to him and ask how he feels. This will arouse and wake him, or he will sleep on without speaking, or he will answer. If he answer, he has entered into the somnambulic state. Then ask him if your method agrees with him, and if he can suggest any improvement on it; whether anything occurs to him to say or advise; whether he sees light in his brain, and how much; if he can perceive his magnetizer; where his organ of vision is located, and how you can improve it; whether he can look into your system or his own, and what he can say of either, how far he can see; if he can travel, or foresee any thing that can take place; whether he can look into your mind, so as to perceive a word you think of, or if not, how soon he will be able to do so, etc., etc.

17. Let him sleep as long as he will, but wake him if he seem fatigued or express a desire to be awaked, first requesting him not to remember what has taken place during his sleep.

18. Wake him by standing behind his chair and passing your hand upwards, from his knees and arms to his head, and by bringing up your fingers briskly before his face, and telling him to awake. Give him his own time to awake, and do not hurry or arouse him suddenly.

19. Upward passes not being magnetic, you should, therefore, in bringing them up, close your fingers and

bend them into a semi circle. The gentlest movements are the best. Let your fingers be apart during the imparting process, and remember that the tips and not the balls convey the fluid. Magnetize, if possible, at the same hour each day.

20. In case the action produces pain in any part, concentrate it to that part in order to draw it away afterwards. If the pain be in the head, attract it to the knees.

21. Occasionally magnetize your subject standing.

Magnetism as a Medical Agent—It is not pretended that magnetism cures all diseases; some are no doubt beyond its reach, but it is certainly a valuable auxiliary of medicine, and every physician should welcome it to his field of labor and make himself familiar with its principles and practice, because a general knowledge of them would, as has been proved by thousands of experiments, relieve many of the ills of life and keep multitudes from untimely graves. Says Baron Dupotet, "The value of such a discovery as animal magnetism is to be estimated, not by the evils by which its unskilful administration may give rise, but by the positive good which may be derived from it. Already we have seen that during the state of magnetic insensibility the most painful surgical operations may be performed and the patient remain the whole time in a state of unconsciousness. Is this not a boon to suffering humanity? This is not all; the most obstinate and painful chronic diseases have been relieved and perfectly cured by its application. It was the successful treatment and cure of diseases which had notoriously resisted every other remedy that compelled the sturdiest and most inveterate of our antagonists to recognize the influence of magnetism, and when these facts were demonstrated beyond all reasonable controversy it remained for them to seek in the shadows of their imagination the solution

of the mystery. In epilepsy, hysteria, neuralgia, chronic rheumatism, headache, I know of no remedy so immediate and availing. How often have I seen the victim of pain writhing in the most acute agony, sink, under its influence into a state of most placid composure."

We submit the following directions for its application:

For headache, place your hand upon the part affected and exercise a constant and benevolent desire to relieve pain, and, after holding it there a few minutes, pass it lightly over the head from right to left. If the pain is occasioned by the stomach, next place your hand on it and proceed as with the head. If the headache is accompanied with cold feet, after holding the hands on the head for a short time, draw them slowly from the head downwards, along the sides to the knees; soon the head will be relieved and the feet become warm. If the pain has existed for years, it is chronic and must have a prolonged treatment.

In rheumatism, if local, place your hand where pain is felt, hold it there for fifteen or twenty minutes, then pass it lightly to the extremity of the feet and thus continue for ten minutes, but if the limbs generally are affected make passes a short distance from them to their extremities for an hour or more; if the disease is chronic repeat the operation daily until the relief is complete, and so with every chronic disease.

The magnetic sleep is highly restorative and should always be resorted to when the complaint is general; but when there is simply a local pain or disease, there is no necessity for it.

For toothache, hold the hand to the part affected for a few minutes, then pass the ends of the fingers lightly over the cheek, from right to left.

In boils, magnetize when the inflammation begins.

For a felon, make passes along the arm as far as the

extremity of the finger, and after lingering a moment there draw off quickly from the end.

The action of magnetism is upon the whole system. It assists the efforts which nature is constantly making to banish from the system whatever is injurious or unwholesome. Its re-establishment of a sound and healthy equilibrium is especially soothing; and when there is a deficiency of vital essence in any of the organs, it strengthens by imparting that essence. It quiets the nerves, restores sleep and appetite, relieves pain, abates swellings and imparts cheerfulness and tranquility even in the case of those organic and hereditary diseases which it cannot cure.

In magnetizing for diseases, we summarize the following directions:

1. In all local affections, accumulate and concentrate the current upon the part and afterwards draw it off towards the extremities. The pain may be increased at first, but it will finally be soothed away by drawing off.

2. The fingers gathered to a point concentrate the action upon the part to which they are directed.

2. For all chronic and acute diseases and surgical operations, except in the case of rheumatism, bruises and burns and similar local affections, magnetize the whole system in the regular way and induce sleep. The magnetic lethargy will prove highly restorative and refreshing.

DIVISION FOURTH.

THE SICK-ROOM.

NURSING THE SICK.

The services of an intelligent, experienced nurse form a part of the treatment of the sick quite as essential as the administration of medicine. To aid her to some extent in the performance of this duty, the following *general* hints are offered: Particular instructions, suited to various diseased conditions are given, when needful, throughout the book, under "Accessory treatment." Special directions concerning infectious fevers are given in the section on "Typhoid Fever." In serious and difficult cases the medical attendant alone can furnish instructions adapted to the peculiarity of each case, and it is the nurse's duty faithfully to carry out his directions and to report to him at each visit the effects of the treatment.

The following points should be kept in view: The apartment should be *airy*. A spacious, well-ventilated room, allowing an uninterrupted admission of fresh air and the free escape of tainted, is a valuable element in the management of the sick. Fresh air can only be insured by an open window or door, or both.

In ventilating a sick-room, you should be careful as to where the air comes from which you let in. Never air a room from another room that has been closed up tight for days previously, nor from a hall which is itself seldom properly aired. The air which you let into the room should not come from a filthy locality, nor from a kitchen, nor underground or basement room.

A fireplace or grate in a room is greatly to be preferred to a stove, and the fireplace should never be closed. Some people, as soon as the season for having fires is over, close up the fireplaces of the rooms where a fire is not necessary. This is bad. A fireplace should never be shut up. It serves, when open, whether with or without fire, as a most important ventilator, an escapement or draught, through which the air may constantly change. By opening a window a little, say at the top, or if this cannot be done, by taking out one of the upper lights and making a brisk fire in an open fireplace a fine draught and plentiful supply of fresh air can be obtained and the room kept properly ventilated. And this should always be done, except in the most extreme hot weather. You need have no fear of the patient taking cold under such circumstances. Of course, the patient is to be in bed and well supplied with the necessary covering. You will find that patients do not take cold while in bed. And it is better even to make use of artificial heat, by applying about the patient's feet, legs and body, warm bricks or bottles of hot water, than to close the room and permit the patient to breathe impure air. When patients first get out of a warm bed is the time they are most likely to take cold. Great care, then, should be exercised in keeping them warmly wrapped. Cleanliness of the skin and clothing, pure air for breathing and proper food, are the chief essentials for the sick. Yet how few are thus properly

cared for ; and, not unfrequently, the result is the death of the patient, when to an inscrutable Providence, improper remedies, or an incompetent physician, is attached the blame which should rest upon an ignorant or a negligent nurse.

Another extraordinary fallacy is the dread of night-air. What air can we breathe at night, but night-air? The choice is between pure night-air from without and foul night-air from within. Most people prefer the latter. An unaccountable choice. What will they say if it is proved to be true that fully one-half of all the disease we suffer from is occasioned by people sleeping with their windows shut? An open window most nights in the year can never hurt any one. In great cities night-air is often the best and purest air to be had in the twenty-four hours. During infectious diseases, besides diluting the poison with an abundance of atmospheric air, dilute *carbolic acid*, specially prepared for use in the sick-room, may be used as an efficient and agreeable disinfectant.

The same solution should be frequently sprinkled about the floors, bedclothes, handkerchief, etc., and be diffused through the room by a spray-producer. It acts quickly as an efficient disinfectant. It may also be used for personal disinfection—a point often but indifferently carried out—by adding it to the water in which the patient is washed, and is a valuable substitute for aromatic vinegar. It also makes an excellent gargle for fever-patients to sweeten the breath. It is also useful to *visitors of the sick*, to prevent the risk from infectious diseases; for this purpose a few drops should be sprinkled on the handkerchief before entering the sick-room. *Mason's perfumed carbolic acid* is much more agreeable in use than ordinary preparations of the pure acid.

To the same end the room should be divested of all superfluous furniture, carpets, bed-hangings, etc.

The room should be provided with a *second bed* or convenient couch to which the patient should, if possible, be removed for a short time, at least once in the twenty-four hours. This insures a change of atmosphere around the patient's body, and at the same time allows the bed to be aired.

The sick-room should be *quiet*. Silk dresses and creaky boots, the crackling noise made by handling a newspaper, etc., often distress invalids; the tones of the voice should be gentle and subdued, but whispering avoided; all unnecessary conversation and noise must be forbidden.

The *temperature* of the room should be ascertained by a *thermometer*, as the sensations of the nurse cannot be depended upon as a sufficient guide; a thermometer suspended out of a current of air and the direct heat of the fire will correctly indicate the temperature of the room. The temperature may be varied according to the nature of the disease from which the patient suffers. In fevers, inflammation of the brain, etc., about 55° will be the proper warmth. In inflammation of the lungs and bronchitis, a higher temperature is necessary— 60° and upwards. In all inflammatory affections of the chest the air should be warm and also moist, so as not to irritate the inflamed lining of the air-tubes. Cold air and too many bed-clothes are sure to increase the mischief. Under all circumstances it must be remembered that the temperature considered necessary is on no account to be maintained by excluding fresh air from the room, and making the patient breathe, over and over again, the air which has already been made impure.

Patients suffering from infectious diseases should be separated, if possible, and occupy a room on an upper

story, to prevent the spread of the infection to others; for infectious exhalations, being lighter than air, ascend. Mothers, who frequently go in and out of the room, might keep a loose cotton gown ready to put on over their other dress whenever they enter it, before waiting on the infected patient, and to be taken off again when leaving the room.

In most cases of illness, especially at the commencement, cold water, barley-water, gum-water, raspberry-vinegar and water, apple-water, toast and water, lemonade and soda-water, all demulcent beverages, are nearly all that are necessary. There is, sometimes, a foolish objection raised to allowing cold water to a patient; but it is not only most refreshing, but an agent of supreme importance, lowering excessive heat, giving vigor to the relaxed capillaries, and accelerating favorable changes. The quantity of cold water given at a time should be small—one to two tablespoonfuls—and repeated as often as desired. Sucking ice is useful and grateful.

Food not to be kept in the sick-room —Miss Nightingale's suggestion on this point is worth repetition here. It is this: do not keep the food, drink or delicacies, intended for the patient, in the sick-room or within his sight. The air and temperature of the apartment are liable to hasten putrefactive decomposition, especially in hot weather, and the continuous sight of them to cause disgust. Rather take up for him, at the fitting time, and by way of surprise, two or three teaspoonfuls of jelly, or as many fresh grapes as he may consume at once, or the segment of an orange. Or, if it be appropriate to his condition, a small cup of beef-tea, covered with one or two narrow slips of toasted bread, just from the fire; this is very much preferable to offering even a less quantity from a basinful that has been

kept for many hours within reach of the patient's hand and eye.

Moderation in convalescence, change of air on recovery from illness, etc., may be found in the section on "Typhoid Fever."

Bathing—The nurse, before commencing to bathe the patient, should provide herself with water, two towels, a sponge, a piece of soft flannel and a sheet. The temperature of the room should also be observed. Use cold or warm water as may be most agreeable to the patient's feelings. Before using the sponge to bathe, a sheet or fold of cloth, should be spread smoothly over the bed and under the patient, to prevent the bed-linen on which the patient lies from becoming damp or wet.

Apply the wet sponge to one part of the body at a time; as the arm, for instance. By doing so, the liability of contracting chills is diminished. Take a dry, soft towel, wipe the bathed part, and follow this by vigorous rubbing with a crash towel, or, what is better, a mitten made of this material; then use briskly a piece of soft flannel, to remove all moisture that may exist on the skin, and particularly between the fingers and the flexions of the joints. In this manner bathe the entire body.

The sick should be thoroughly bathed at least once in twenty-four hours. Particular attention should be given to the parts between the fingers and toes, and about the flexions of the joints, as the accumulation of the excretions is most abundant on these parts. In bathing, these portions of the system are very generally neglected. The best time for bathing, is when the patient feels most vigorous, and freest from exhaustion. The practice of daubing the face and hands with a towel dipped in hot rum, camphor, and vinegar, does not remove the impurities, but causes the skin soon to feel dry, hard and uncomfortable.

Food—It is the duty of every woman to know how to make the simple preparations adapted to a low diet, in the most wholesome and the most palatable way. Water-gruel, which is the simplest of all preparations, is frequently so ill-made as to cause the patient to loathe it. Always prepare the food for the sick in the neatest and most careful manner.

When the physician enjoins abstinence from food, the nurse should strictly obey the injunction. She should be as particular to know the physician's directions about diet, as in knowing how and when to give the prescribed medicines, and obey them as implicitly.

When a patient is convalescent, the desire for food is generally strong, and it often requires firmness and patience, together with great care on the part of the nurse, that the food be prepared suitably, and given at proper time. The physician should direct how frequently it should be taken.

Bed-linen, as well as that of the body, should be aired every day, and oftener changed in sickness than in health. All clothing, when changed, should be well dried, and warmed by a fire previously to its being put on the patient or the bed.

Darkening the sick-room—It is a common error to imagine that a sick-room should always be either *partially* or *wholly* darkened. In some diseases, as, for example, fevers, when the eyes are acutely sensitive to light, so that they remain half-closed, and the eyebrows are contracted, the greatest relief is experienced from darkening the room. When delirium is present, a certain degree of darkening is, in some instances serviceable; whilst in others, especially when the delirium is accompanied with visual illusions, nothing so readily dispels these, and consequently abates the delirium, as the admission of the full daylight into the sick-room. There

is much difficulty, however, in determining which state of the apartment is likely to be most serviceable in any particular case. Observation of the effects of light and darkness, in the individual case, must be our guide.

Beds—There is probably more injury done to the sick, and more lives lost through the ignorance of the nurse in regard to the bed and bedding, than in any other thing.

To say the least, the condition of *many* beds is an *outrage* to the suffering patient.

The careful nurse is very particular about *airing the sheets* every day. But are the mattresses ever aired? ever changed? seldom.

A mattress will soon become saturated with the unhealthy, poisonous emanation from the patient's body; from this arises a dampness, either cold or warm, as the case may be, which returns upon the patient, to be inhaled and absorbed into the system; and this unhealthy process is kept up during the whole course of his sickness.

A patient should not be allowed to lie on the same mattress more than forty-eight hours at a time; twenty-four hours is better. It should then be exchanged for a well-aired one; while it should be subjected to a thorough airing and sunning; not slipped *underneath* another, on the same bed, as is sometimes done.

It is vastly more important that the mattresses be frequently changed and aired, than that the sheets be; and for the reason that they will catch and contain vastly more poisonous effluvia than sheets will, and will give it off again, to the great injury of the patient. The exhalations from the patient's body are constantly passing off, by perspiration, and gradually and constantly passing into his bed.

It may be worth while to remark, that where there is

any danger of bed-sores, a blanket should never be placed *under* the patient. It retains damp and acts like a poultice.

Never use anything but light Whitney-blankets, as bed-covering for the sick. The heavy, cotton, impervious counterpane is bad, for the very reason that it keeps in the emanations from the sick person, while the blanket allows them to pass through. Weak patients are invariably distressed by a great weight of bed-clothes, which often prevents their getting any sound sleep whatever.

Never place a patient on such a detestable thing as a *feather-bed*. Mattresses should be used for this purpose, and those made of hair are the best.

As regards pillows, the facts are, every weak patient, be his illness what it may, suffers more or less from difficulty in breathing. To take the weight of the body off the poor chest, which is hardly up to its work as it is, ought therefore to be the object of the nurse in arranging his pillows. Now what does she do, and what are the consequences? She piles the pillows, one a-top of the other, like a wall of bricks. The head is thrown upon the chest. And the shoulders are pushed forward, so as not to allow the lungs room to expand. The pillows, in fact, lean upon the patient, not the patient upon the pillows.

Beds for the sick, as well as for those in health, should not be too low; neither should they be at the other extreme—that is, too high. The height to the top of the upper mattress, should not exceed eighteen inches or two feet.

If the patient is too high, especially if the ceiling is low, he will be above the current of fresh air, and in that which is heated and impure. Care should be had also not to have the bed too low, or the patient will be in the cold, damp, and equally unhealthy air which settles near

the floor of the room. The best criterion is to have the position of the patient as near as possible on a level with the top of the fireplace, as he will then be in a current of the best air in the room.

The bed should never be placed against the wall, nor in the corner of the room, the reasons of which will appear to every intelligent nurse. If possible, it should be in the lightest part of the room, and where the patient can look out of the window.

If possible, the bed should be made night and morning. And sometimes during the day and night the bed-clothes should be raised up from the body and let fall again, so as to drive out the confined air; or they should be thrown back towards the feet, to allow a full airing. If possible, the head of the bed should be placed towards the north.

Proper time and punctuality in giving food—
Punctuality in giving food is of the utmost importance. With very weak patients, life itself may hang upon a few minutes. A spoonful of nourishment, given at the right time, may turn the scale and save the patient's life; whereas, if it had been delayed fifteen minutes longer, it might have been too late! Where patients are very weak and can take but little nourishment at a time, it is of the utmost importance that it be given with scrupulous punctuality.

In the case of a large majority of very weak patients it is quite impossible to take any solid food before 10 or 11 A. M., nor then, if their strength is still further exhausted by fasting till that hour; for weak patients have generally feverish nights and in the morning dry mouths; and if they could eat with those dry mouths it would be the worse for them. A spoonful of beef-tea or arrow-root and wine, of egg-flip every hour, will give them the requisite nourishment and prevent them from

being too much exhausted to take, at a later hour, the solid food, which is necessary for their recovery. Again, a nurse is ordered to give a patient a teacupful of some article of food every three hours. The patient's stomach rejects it. If so, try a tablespoonful every hour; if this will not do, a teaspoonful every quarter of an hour.

It should be better known that there are many lives lost for the want of proper care and ingenuity at these momentous times.

Patients' lives have been saved when they were sinking for the want of food by the simple question put to them by the doctor, "But is there no hour when you feel you could eat?" "Oh yes, I could always take something at — o'clock and — o'clock." Patients very seldom, however, can tell this—it is for you to watch and find it out.

A patient should, if possible, not see or smell either the food of others, or a greater amount of food than he himself can consume at one time, or even hear food talked about, or see it in the raw state.

The above is applicable mainly to patients who are in a very feeble state of health, from exhaustion, through the want of nourishment. Hence in all these cases there are much judgment and discretion to be exercised by the nurse. The general rule is, "*never urge a patient to eat;*" he will know better than you when he needs food. As to what he should eat, he may know better than you. If he craves any particular thing, the chances are that it will not hurt him. The diet should be light, nourishing, and easy of digestion. But recollect that the patient does not need much food. This will apply to all cases of acute disease. In diseases of long standing, where there is little or no fever, the rule will be somewhat different. A light diet may not be so necessary. In cases of recent attacks of fever, or acute

diseases of the bowels, food, especially animal food, urged upon a patient simply because it is thought he ought to eat something, is likely to do more harm than for him to go without food for three days. Indeed, the abstinence from food for that time, or even longer, might be the best possible way to save the patient's life! The best rule in all cases of recent or acute diseases is, *never to give the patient food unless he desires it*; and then to *let him have what he wants or prefers, if you know it cannot hurt him*.

Moisture and impurities produced in the room—There ought to be nothing in the room, besides the patient, that can give off effluvia or moisture. The damp from towels, or any other article hung up to dry, goes into the air the patient is to breathe. One of the worst habits is that of leaving the chamber-vessel with its contents under the bed. A vessel for such purposes should never be left standing in the room for one moment with its contents—though it contain nothing but urine—*without being well covered*; and if ever so well covered, it should be emptied immediately and well cleansed, lid and all. Day or night, make this an inviolable rule in a sick-room.

There should be no standing liquid of any description in a sick-room, not even the purest cold water; because, the cold water causes the tainted atmosphere of the sick-room to settle on its surface, and condense into oily drops, to drink which would be disgusting. If not drunk, the same particles are made gaseous by the warm air of the room, are evaporated, mingled with the air, and breathed into the lungs.

All medicines, bottles and vials, or anything else which reminds of medicine, should be kept out of sight, except at the moment of administering them.

The use of a chamber-vessel without a lid should be

abolished, whether *among sick or well*. You can easily convince yourself of the necessity of this absolute rule by taking one with a lid and examining the underside of that lid. It will be found always covered, whenever the utensil is not empty, by condensed, offensive moisture. Where does that go when there is no lid?

Earthenware, or if there is any wood, highly polished and varnished wood, are the only materials fit for patients' utensils.

A slop-pail should never be brought into a sick-room or any other. It should be a rule invariable that the utensil should be carried directly to the water-closet, emptied there, rinsed there and brought back. There should always be water and a cock in every water-closet for rinsing. But even if there is not, you must carry water there to rinse with. Says a physician, "I have actually seen, in the private sick-room, the utensils emptied into the foot-pan and put back unrinsed under the bed. I can hardly say which is most abominable—whether to do this or to rinse the utensil *in* the sick-room."

External applications—The feet and legs should be examined by the hand, from time to time, and whenever a tendency to chilling is discovered, hot bottles or warm flannels, with some warm drink, should be made use of until the temperature is restored. Patients are frequently lost in the latter stages of disease, from want of attention to such simple precautions. The nurse may be trusting to the patient's diet, or to his medicine, which she is directed to give him, while the patient is all the while sinking from want of a little external warmth. Such cases happen even during the height of summer. This fatal chill is most apt to occur toward early morning, at the period of the lowest temperature of the twenty-four hours, and at the time when the effect of the preceding day's diet is exhausted.

Talking business to a sick person—Always sit down when a sick person is talking business to you, show no signs of hurry, and go away the moment the subject is ended.

Always sit within the patient's view, so that when you speak to him he has not painfully to turn his head round in order to look at you. If you make this act a wearisome one on the part of the patient, you are doing him harm. So also if by continuing to stand, you make him continuously raise his eyes to see you. Be as motionless as possible, and never gesticulate in speaking to the sick.

Mere visitors should not be allowed to remain in the sick-room more than five minutes, just long enough to allow a friendly greeting, and the expression of a hope that soon all will be well again, with the communication of such intelligence as might make a pleasant impression on the mind.

Sitting on the bed of a patient—Remember never to lean against, sit upon, or even touch the bed in which a patient lies. This is a painful annoyance. If you shake the chair on which he sits, he has a point by which to steady himself, in his feet. But on a bed or sofa, he is entirely at your mercy, and he feels every jar you give him all through him.

Conversation and noise—It is a matter of surprise that the friends of patients, and even *many* doctors, should exhibit so much thoughtlessness, or lack of good sense, often resulting in unintentional cruelty, as to hold a long conversation in the room of the patient, or in a passage adjoining it. If it is a whispered conversation in the same room, then it is absolutely cruel; for it is impossible that the patient's attention should not be strained to hear. Walking on tip-toe, or doing anything in the room very slowly, is injurious for the same rea-

sons. A firm, light, quick step, a steady, quick hand, with every act and look tempered with gentleness of disposition and kindness of heart, are qualities most desired in the sick-room; not the slow, lingering, shuffling foot, the timid, uncertain touch, the boisterous word or laugh, or the look of anxiety and despair.

Variety and change—The effect, in sickness, of beautiful objects, especially those of variety and brilliancy of color, is hardly at all appreciated, yet they are actual means of recovery. But it should be a slow variety; for example, if you show a patient ten or twelve engravings successively, ten to one that he becomes cold and faint or feverish, or even sick; but hang one up opposite him, one on each successive day, or week, or month, and he will revel in the variety.

Nurses vary their own objects, their own employments, many times a day; and yet, while nursing some bed-ridden sufferer, they are liable to let him lie there staring at a dead wall, without any change of object to enable him to vary his thoughts; and it never even occurs to them, at least to move his bed so that he can look out of the window. No, the bed is to be always left in the darkest, dullest, remotest part of the room.

On leaving the sick room—Always tell a patient, and tell him beforehand, when you are going out, and when you will be back, whether it is for a day, an hour or ten minutes. If you go without his knowing it and he finds it out, he never will feel secure again that the things which depend upon you will be done when you are away, and, in nine cases out of ten, he will be right. If you go out without telling him when you will be back, he can take no measures or precautions as to the things which concern you both, or which you do for him. You should be prompt to return at the appointed time; and *all will* who are worthy of being called nurses.

The nurse requires knowledge and practice to enable her to discharge aright her duty to the patient, as much as the physician and surgeon do to perform what is incumbent on them. Woman, from her constitution and habits, is the natural nurse of the sick ; and, in general, no small portion of her time is spent in ministering at the couch of disease and suffering.

No *girl* should consider her education complete, who is not acquainted with the principles of the duties of a general nurse and a temporary watcher.

It is to be regretted that, while we have medical schools and colleges to educate physicians, there are but few institutions to educate *nurses*, in their equally responsible station. In the absence of such institutions the defect can be remedied, to some extent, by teaching every girl *hygiene*, or *the laws of health*. To make such knowledge more available and complete, attention is invited to the suggestions on those pages relative to the practical duties of a nurse.

Quiet—The room of the patient should be kept free from noise. The community should be guided by this rule, that no more persons remain in the room of the sick, than the welfare of the patient demands. It is the duty of the physician to direct when visitors can be admitted or excluded from the sick-room, and the nurse should see that these directions are enforced.

It is the duty of the nurse to ascertain the habits of the patient as respects the period for eating and sleep, when in health, that she may prepare the food and arrange the sick-room in accordance with the practice of the patient. If the person who is sick is ignorant of the necessity of the removal of the waste products from the system, the nurse should invite attention to these functions at such periods as are in accordance with the previous habits of the patient.

The deportment and remarks of the nurse to the patient should be tranquil and encouraging. The illness of a friend, or persons who have recently died, should not be alluded to in the sick-room. No doubts or fears of the patient's recovery, either by a look or by a word, should be communicated by the nurse, in the chamber of the sick. When such information is necessary to be communicated, it is the duty of the physician to impart it to the sick person.

The nurse should not confine herself to the sick-room more than six hours at a time. She should eat her food regularly, sleep at regular periods, and take exercise daily in the open air. To do this, let her quietly leave the room when the patient is sleeping. A watcher, or temporary nurse, may supply her place. There is but little danger of contracting disease, if the nurse attends to the simple laws of health, and remains not more than six hours at a time in the sick-room.

Directions for watchers—These necessary assistants, like the nurse, should have knowledge and practice. They should ever be cheerful, kind, firm and attentive in the presence of the patient.

A simple, nutritious supper should be eaten before entering the sick-room; and it is well, during the night, to take some plain food.

When watching in cold weather, a person should be warmly dressed, and furnished with an extra garment, as a cloak or shawl, because the system becomes exhausted towards morning, and less heat is generated in the body.

Light-colored clothing should be worn by those who have the care of the sick, in preference to dark-colored apparel; particularly if the disease is of a contagious character. Experiments have shown that black and other dark colors will absorb more readily the subtle effluvia

that emanate from sick persons, than white or light colors.

Whatever may be wanted during the night should be brought into the sick-chamber or the adjoining room, before the family retires for sleep, in order that the slumbers of the patient be not disturbed by haste or searching for needed articles.

The same general directions should be observed by watchers, as are given to the nurse; nor should the watcher deem it necessary to make herself acceptable to the patient by exhausting conversation.

It can hardly be expected that the farmer, who has been laboring hard in the field, or the mechanic, who has toiled during the day, is qualified to render all those little attentions that a sick person requires. Hence, would it not be more benevolent and economical to employ and *pay* watchers, who are qualified by knowledge and *training*, to perform this duty in a faithful manner, while the kindness and sympathy of friends may be *practically* manifested by assisting to defray the expenses of these qualified and useful assistants?

The Nurse—When all the arrangements are completed in the sick-room, little benefit can be anticipated if a proper nurse be not obtained to render them available to the invalid. Every female who wishes to act as a sick-nurse should be educated in an institution for this purpose, or she should be obliged to serve a certain time as an assistant-nurse in one of the public hospitals, and to receive a certificate of her efficiency before she leaves the establishment. The advantages which the public would derive from a body of nurses educated in this manner must be obvious to every one who has had opportunities of observing the miserable nurses we have; many of them never having as much as read any books on the subject.

In hiring a sick-nurse, the qualifications which should regulate our choice refer to *age, strength, health, temper, disposition, habits and education.*

She should not be under twenty-five nor above fifty-five years of age. This period is fixed upon on account both of the physical powers and the moral conduct of the individual. Under twenty-five the strength of a woman has not reached its maturity, and is scarcely adequate for lifting patients in and out of bed, and for many other duties which require strength, connected with the office of a nurse; but the strength and the muscular power in females begin to fail after fifty-five, when the natural transition from maturity to decay takes place.

The foregoing remarks respecting age render it almost unnecessary to say that a woman of a naturally delicate frame of body is unfit for a sick-nurse; at the same time, a coarse, heavy and masculine woman is, for many reasons, objectionable. Whilst strength is requisite, the frame should be such as to indicate activity.

None of the qualifications of a sick-nurse are of importance more than health. An individual who herself requires attention is ill-calculated to attend upon others. A woman who is asthmatic, or has any difficulty of breathing, or an habitual cough; who is rheumatic or gouty, or has any spasmodic affections; who is afflicted with palpitation; or suffers from periodical headache, vertigo or a tendency to paralysis; or who is consumptive or scrofulous; or has defective sight or hearing; or anything which causes decrepitude, is disqualified for a sick-nurse. It is important, also, to ascertain that the nurse is not hysterical nor predisposed to mental depression.

It is scarcely requisite to say that an attendant upon the sick should possess a happy, cheerful, equal flow of spirits; a temper not easily ruffled; and kind and sym-

pathetic feelings ; but, at the same time, not such as to interfere with firmness of character. The expression of the countenance should be open and winning, so as to attract the good-will and confidence of the invalid ; a pleasing and gentle manner being more likely to gain esteem, and insure obedience to the orders of the physician, than the most persuasive arguments which can be addressed to the understanding of the patient.

A collected, cheerful expression of the countenance, in the attendant on the sick, is likely to inspire hope, and to aid the efforts of the physician for the recovery of his patient.

The general disposition of a sick-nurse should be obliging. Every little office which the invalid may require to be done should be performed at once, and without the smallest apparent reluctance, even when the necessity for its immediate performance is not absolute. There is also an earnestness of manner which should, if possible, be obtained or acquiesced in by the sick-nurse, as it impresses the idea that she feels deeply interested in the case ; a circumstance which is always highly appreciated by the patient.

Finally, it is unnecessary to say that a nurse should be honest, as no description of servant has so much in her power. But the honesty of the nurse is not to be measured by her respect for property ; she must be above imposing on the physician, with respect either to medicines or to diet.

In her habits a sick-nurse should be sober, active, orderly and clean, and neat in her person.

It may appear a refinement to talk of the *education* of a nurse ; but there is not a greater difference between noon-day and midnight than between an educated and an ignorant nurse. The former is often an aid to the physician, not only in carrying his orders into effect, but

by observing and informing him of symptoms of great importance which have occurred during his absence; whereas the latter is a source of constant anxiety, and too often assumes the privilege of acting in direct contradiction to his orders, and according to her own opinion.

To prevent infection—In every case of infectious disease, the attendants, even in the best ventilated rooms, should stand on the windward, or on that side of the sick-bed from which the current of air comes; as, by neglect of this rule, and by standing in the current which has passed over the patient, the infectious exhalations are blown upon them in a direct stream from the body of the patient. The attendants should never lean over the sick, nor should they receive their breath. The health also of the nurses should always be supported by nutritious and generous diet; but not by brandy or any other ardent spirit.

Light—Patients should be able, without raising themselves or turning in bed, to see out of the window from their beds. To see the sky and sunlight at least, if you can show them nothing else, I assert to be, if not of the very first importance for recovery, at least something very near it. And you should look to the position of the beds of your sick, as one of the very first things. Again, the morning sun and the mid-day sun—the hours when they are quite certain not to be up—are of more importance to them, if a choice must be made, than the afternoon sun. But the best rule is, if possible, to give them direct sunlight from the moment he rises till the moment he sets.

A great difference between the bed-room and the sick-room is that the *sleeper* has a very large balance of fresh air to begin with, when he begins the night, if his room has been open all day, as it ought to be.

Cleanliness—Prof. Scudder makes the following obser-

variations on this subject: "Compare the dirtiness of the water in which you have washed when it is cold without soap, cold with soap, hot with soap. You find the first has hardly removed any dirt at all, the second a little more, the third a great deal more. But hold your hand over a cup of hot water for a minute or two and then, by merely rubbing with the finger, you will bring off flakes of dirt or dirty skin. After a vapor bath you may peel your whole self clean in this way. What I mean is, that by simply washing or sponging with water you do not really clean your skin. Take a rough towel, dip one corner in very hot water—if a little spirit be added to it it will be more effectual—and then rub as if you were rubbing the towel into your skin with your fingers. The black flakes which will come off will convince you that you were not clean before, however much soap and water you may have used. These flakes are what require removing. And you can really keep yourself cleaner with a tumbler of hot water and a rough towel and rubbing than with a whole apparatus of bath and soap and sponge without rubbing. It is quite nonsense to say that anybody need be dirty. Patients have been kept as clean by these means on a long voyage, when a basinful of water could not be afforded and when they could not be moved out of their berths, as if all the appurtenances of home had been at hand.

"Washing, however, with a large quantity of water, has quite other effects than those of mere cleanliness. The skin absorbs the water and becomes softer and more perspirable. To wash with soap and soft water is, therefore, desirable from other points of view than that of cleanliness."

There are some common errors prevalent among those who have care of the sick, in reference to diet, a few of which we shall mention:

One is the belief that beef-tea is the most nutritive of

all articles. Now, boil down a pound of beef into beef-tea, evaporate your beef-tea, and see what is left of your beef. You will find that there is barely a teaspoonful of solid nourishment to half a pint of water in beef-tea; nevertheless there is a certain nutritive quality in it, yet there is little to be depended upon with the healthy or convalescent, where much nourishment is required. Again, it is an ever-ready saw that an egg is equivalent to a pound of meat; whereas it is not at all so. Also, it is seldom noticed, with how many patients, particularly of nervous or bilious temperament, eggs disagree. All puddings made with eggs are distasteful to them in consequence. An egg, whipped up with wine, is often the only form in which they can take this kind of nourishment. Arrow-root is another grand dependence of the nurse. As a vehicle for wine, and as a restorative quickly prepared, it is all very well. But it is nothing but starch and water. Flour is both more nutritive and less liable to ferment, and is preferable wherever it can be used.

Again, milk and the preparations from milk are a most important article for the sick. Butter is the lightest kind of animal fat, and though it lacks the sugar and some of the other elements which are in milk, yet it is most valuable both in itself and in enabling the patient to eat more bread. Flour, oats, barley and their kind are preferable to all the preparations of arrow-root, sago, tapioca and their kind. Cream, in many long, chronic diseases, is quite unsurpassed by any other article whatever. It seems to act in the same manner as beef-tea, and to most it is much easier of digestion than milk. In fact, it seldom disagrees.

Sour milk, however, should be used with caution, as there are some diseases in which it is injurious. Butter-milk, a totally different thing, is often very useful, especially in fevers.

In laying down rules of diet, by the amounts of solid nutriment in different kinds of food, it is constantly lost sight of, what the patient requires to repair his waste, what he can take, and what he can't. The nurse's observation here will materially assist the doctor—the patient's fancies will materially assist the nurse.

"In the diseases produced by bad food, such as scorbutic dysentery and diarrhea, the patient's stomach often craves for and digests things, some of which would be laid down in no dietary that ever was invented for sick, and especially not for such sick. These are fruit, pickles, jam, gingerbread, fat of ham or bacon, suet, cheese, butter, milk. These cases I have seen not by ones, nor by tens, but by hundreds. And the patient's stomach was right and the book was wrong. The articles craved for, in these cases, might have been principally arranged under the two heads of fat and vegetable acids.

"There is often a marked difference between men and women in this matter of sick feeding. Women's digestion is generally slower."

Jelly is another article of diet in great favor with nurses and friends of the sick; but it is now known that jelly does not nourish, that it has a tendency to produce diarrhea—and to trust to it to repair the waste of a diseased constitution, is simply to starve the sick under the guise of feeding them. If one hundred spoonfuls of jelly were given in the course of the day, you would have given one spoonful of gelatine, which spoonful has no nutritive power whatever.

And, nevertheless, gelatine contains a large quantity of nitrogen, which is one of the most powerful elements in nutrition; on the other hand, beef-tea may be chosen as an illustration of great nutrient power in sickness coëxisting with a very small amount of solid nitrogenous matter.

Dr. Christison says that "every one will be struck with the readiness with which" certain classes of "patients" will often take diluted meat-juice or beef-tea repeatedly, when they refuse all other kinds of food." This is particularly remarkable in "cases of gastric-fever, in which," he says, "little or nothing else besides beef-tea or diluted meat-juice" has been taken for weeks, or even months; "and yet a pint of beef-tea contains scarcely one-fourth ounce of anything but water"—the result is so striking that he asks what is its mode of action? "Not simply nutrient—one-fourth ounce of the most nutritive material cannot nearly replace the daily wear and tear of the tissues in any circumstances. Possibly," he says, "it belongs to a new denomination of remedies."

"It has been observed that a small quantity of beef-tea, added to other articles of nutrition, augments their power out of all proportion to the additional amount of solid matter.

"The reason why jelly should be innutritious, and beef-tea nutritious to the sick, is a secret yet undiscovered, but it clearly shows that careful observation of the sick is the only clue to the best dietary.

"Chemistry has, as yet, afforded little insight into the dieting of the sick. All that chemistry can tell us is the amount of carboniferous and nitrogenous elements discovered in different dietetic articles. It has given us lists of dietetic substances, arranged in the order of their richness in one or other of these principles; but that is all. In the great majority of cases the stomach of the patient is guided by other principles of selection than merely the amount of carbon or nitrogen in the diet. No doubt in this, as in other things, nature has very definite rules for her guidance, but these rules can only be ascertained by the most careful observation at the bedside. She there teaches us that living chemistry, the chemistry

of reparation, is something different from the chemistry of the laboratory. Organic chemistry is useful, as all knowledge is, when we come face to face with nature; but it by no means follows that we should learn in the laboratory any one of the reparative processes going on in disease.

“Again, the nutritive power of milk, and of the preparations from milk, is very much undervalued; there is nearly as much nourishment in half a pint of milk as there is in a quarter of a pound of meat. But this is not the whole question, or nearly the whole. The main question is, what the patient’s stomach can assimilate or derive nourishment from, and of this the patient’s stomach is the sole judge. The diet which will keep the healthy man healthy, will kill the sick one. The same beef, which is the most nutritive of all meat, and which nourishes the healthy man, is the least nourishing of all food to the sick man, whose half-dead stomach can *assimilate* no part of it; that is, make no food out of it. On a diet of beef-tea, healthy men on the other hand speedily lose their strength.

“I have known patients live for many months without touching bread, because they could not eat baker’s bread. Home-made bread or brown bread is a most important article of diet for many patients. The use of laxatives may be entirely superseded by it. Oat-cake is another.”—[*Scudder*.

You should never give tea or coffee to the sick, as a rule, after five o’clock in the afternoon. Sleeplessness in the early night is from excitement generally, and is increased by tea or coffee; sleeplessness, which continues to the early morning, is from exhaustion often and is relieved by tea. In general, the dry and dirty tongue always prefers tea to coffee and will quite decline milk, unless with tea. Coffee is a better restorative than tea, but a greater impairer of the digestion.

In making coffee, it is absolutely necessary to buy it in the berry and grind it at home. Otherwise you may reckon upon its containing a certain amount of chicory, at least. This is not a question of the taste or of the wholesomeness of chicory ; it is that chicory has nothing at all of the properties for which you give coffee. And therefore you may as well not give it.

For "Food for the Sick," see page 82, *et seq.*

DIVISION FIFTH.

HYGIENE.

THE DIGESTIVE ORGANS.

Statement—It is a law of the human system that each organ is moved to healthy action under the influence of its proper stimulus. The perfection of the digestive process, as well as the health of the whole system, require the observance of certain rules, with regard to the quantity and quality of the food, the manner of taking it and the condition of the system at the time.

QUANTITY OF FOOD.

Variation—The age, occupation, temperament, temperature, habits, amount of clothing generally worn, health and disease of the individual, are among the circumstances which produce a variation in the quantity of food necessary for the system.

Growth—In proportion to this will be the natural demand for food on the part of the child and youth. The more rapid the growth, the greater the demand. This makes the keen appetite and vigorous digestion of childhood. After full growth, this unusual necessity for nutriment ceases, unless there should be a corres-

ponding increase of mental or bodily exertion after this period. Without this, to continue to eat as much as during the growing stage, would impair or disease the digestive apparatus and diminish the vigor of the whole system.

Repairing waste—Loss of substance follows action in every department of nature. This is called waste. As exercise or thought increases, the fluids of the system circulate with increased energy. The old atoms of the human system are more rapidly removed, by their proper organs, the vessels of the skin, lungs, kidneys, etc., and new atoms are deposited by the smaller blood-vessels.

Diminishing the quantity—A lessening of activity implies a corresponding cessation of waste; hence, the quantity of food should be diminished in nearly the same proportion as the amount and intensity of exertion; otherwise the tone of the digestive organs must become impaired and the health enfeebled. Students who have left laborious employments to attend school, are exhausted by the demands of the new labor, rather than by previous habits. The real wants of the system are generally manifested by the corresponding sensation of hunger. It is a common observation, in academies and colleges, that the students who suffer from impaired digestion are those who have experienced this transition from labor to comparative repose.

Heat—This is produced in the system, at least partly, by the union of oxygen with carbon and hydrogen, in the minute vessels of the various organs. This union is accomplished by food and drink. The volume of heat is greatest when it is most required, *i. e.*, in cold weather. Every one has noticed that he eats with a better appetite in winter than in summer. Where any deficiency of food occurs, a corresponding increase of clothing is required. This principle shows the propriety of lessening the

amount of food as the warm season approaches. If this were regularly practiced the tone of the stomach would not so often need restoration by means of "tonic bitters," etc. Men minister to the lower animals more wisely than to themselves; thus all who have the care of live-stock soon learn by experience that when the warm season begins their charges require less food.

Quantity to be gauged by condition—If the digestive organs are weakened or diseased, that amount of food only should be taken which they can easily digest. Unchanged by digestion, food weakens rather than invigorates the system. The anxiety of a mother should never induce her to give food to her sick child, unless she believes it to be actually needed. If she be in doubt, let her consult a physician.

Habit—This has much to do with the quantity of food required. Some take more than is necessary and the excess is removed by the waste-outlets. If, then, food is not taken in the usual quantity, there will be a feeling of emptiness, resembling hunger, from the want of the usual distension of the stomach. This feeling may result from disease, but it is oftener the effect of inordinate indulgence in eating.

Effect of too much food—Large quantities oppress the stomach and produce languor of the whole system. The system makes an extraordinary demand for blood and nervous fluid, to enable the stomach to dispose of its burden. If an unusual effort is intended, either mental or physical, soon after meal-time, we should eat less than usual, rather than more.

Appetite and taste—Satisfaction of the appetite is the best usual test of the right quantity of food. This is the natural desire, arising from the wants of the system. Taste, on the other hand, is an artificial desire to gratify the palate.

No certain rule—Though many things may aid us

in fixing the right quantity of food, there is no certain guide. Some think that hunger may be relied upon for this purpose; but this is evidently an error, since an artificial appetite may be induced by stimulants or gormandizing. So, on the other hand, the brain, when diseased, may not take cognizance of the sensations of the stomach, though the system may actually require nourishment. Disease, habit, the mental state and many other things exert an influence on the state of the appetite.

It is true that Dr. Beaumont noticed, in his experiments upon Alexis St. Martin, that, after a certain amount of food had been converted into chyme, the gastric juice ceased to ooze from the coats of the stomach; and it has consequently been inferred, by some medical writers, that the glands which supply this juice would only supply enough for the actual wants of the system. But what are the reasonable grounds of this inference? Can any one show a reason why the gastric glands may not be stimulated to extra activity, or be influenced by habit, as well as other organs?

It is admitted, that the predisposing cause of hunger is usually a demand of the system for nutrient material; but it is also insisted that this is not always the immediate cause of the sensation of hunger. Some physicians ascribe it to certain conditions of the glands of the stomach, and others to a peculiar state of the nervous system.

QUALITY OF FOOD.

Generalities.—The kind of food best adapted to the wants of the system is modified by many circumstances. The different varieties of food are still further modified by the various methods of preparation. A given quality

of food is not equally well adapted to different individuals, or to the same individual in different conditions. This must be obvious to all who have even slightly observed the effect of the same food, at different times, upon themselves.

What is Meant by Quality in Food—Food is either nutritive or digestible, but a single article is not necessarily both. Foods are nutritious in proportion as they supply the elements of chyle, but they are digestible only in proportion to the readiness with which they yield to the action of the gastric juice. These properties should not be confounded. Such articles as milk and eggs which contain the greatest amount of the constituent elements of the system are most nutritious, but there are conditions of the system in which these articles are wholly indigestible. Of course those articles which do not contain the essential elements of the system should never form the exclusive diet. On the other hand it is plain that articles which contain but a small quantity of these elements may often afford the greatest amount of nourishment because they are more easily digested.

Time of Digestion—To ascertain the time required for the digestion of the different articles of food, Dr. Beaumont made many experiments on Alexis St. Martin, the general results of which are shown in the following table. As is known to almost every one the stomach of St. Martin was ruptured by the bursting of a gun. He recovered under Dr. Beaumont's care, when the stomach adhered to the side, with an external opening. In the healing process nature formed a kind of valve which closed the opening from the inside, thus preventing loss of the contents of the stomach, but on pushing aside this valve, the process of digestion could be plainly seen. It was through this orifice that the appearance of the coats of the stomach and food at different stages of digestion were examined.

TABLE,

SHOWING THE MEAN TIME OF DIGESTION OF THE DIFFERENT ARTICLES OF DIET.

Articles.	Preparation.	Time.	Articles.	Preparation.	Time.
		h.m			h.m
Apples, sour, hard.....	Raw	2 50	Meat hashed with } vegetables	Warm'd	2 30
“ “ mellow.....	Raw	2	“	Boiled.....	2
“ sweet, do.....	Raw	1 30	“	Raw.....	2 15
Bass, striped, fresh.....	Broiled.....	3	Mutton, fresh.....	Roasted.....	3 15
Beans, pod.....	Boiled.....	2 30	“ “	Boiled.....	3
Beef, fresh, lean, rare....	Roasted.....	3	“ “	Boiled.....	3
“ “ “ dry....	Roasted.....	3 30	Oysters, fresh.....	Raw.....	2 55
“ steak	Broiled.....	3	“ “	Roasted.....	3 15
“ with salt only.....	Boiled.....	3 30	“ “	Stewed.....	3 30
“ with mustard.....	Boiled.....	3 10	Parsnips	Boiled.....	2 30
“ fresh, lean.....	Fried.....	4	“	Roasted.....	2 30
“ old, hard, salted	Boiled.....	4 15	Pigs' feet, soured.....	Boiled.....	1
Beets	Boiled.....	3 45	Pork, fat and lean.....	Roasted.....	5 15
Bread, wheat, fresh.....	Baked.....	3 30	“ recently salted...	Boiled.....	4 30
“ corn.....	Baked.....	3 15	“ “	Fried.....	4 15
Butter.....	Melted.....	3 30	“ “	Boiled.....	3 15
Cabbage head.....	Raw	2 30	“ “	Raw.....	3
“ with vinegar	Boiled.....	4 30	“ steak.....	Boiled.....	3 15
Cake, sponge.....	Baked.....	2 30	Potatoes, Irish.....	Boiled.....	3 30
Carrot, orange.....	Boiled.....	3 15	“	Baked.....	2 30
Catfish.....	Fried.....	3 30	Rice	Boiled.....	1
Cheese, old strong.....	Raw	3 30	Sago	Boiled.....	1 45
Chicken, full-grown.....	Fricas'd	2 45	Salmon, salted.....	Boiled.....	4
Codfish, cured, dry.....	Boiled.....	2	Sausage, fresh.....	Boiled.....	3 20
Corn, green, and beans	Boiled.....	3 45	Soup, beef, vegetables }	Boiled.....	4
“ bread.....	Baked.....	3 15	“ and bread..... }	“	“
“ cake.....	Baked.....	3	“ chicken.....	Boiled.....	3
Custard.....	Baked.....	2 45	“ mutton	Boiled.....	3 30
Dumpling, apple.....	Boiled.....	3	“ oyster.....	Boiled.....	3 30
Ducks, domesticated....	Roasted.....	4	Suet, beef, fresh.....	Boiled.....	5 30
“ wild.....	Roasted.....	4 30	“ mutton.....	Boiled.....	4 30
Eggs, fresh.....	Boiled.....	3 30	Tapioca.....	Boiled.....	2
“ “	hard.....	3	Tripe, soured.....	Boiled.....	1
“ “	Boiled.....	3	Trout, salmon, fresh...	Boiled.....	1 30
“ “	soft	3	“ “	Fried.....	1 30
“ “	Fried.....	3 30	Turkey, domesti-	Roasted.....	2 30
“ “	Raw	2	“ cated	“	“
Flounder, fresh.....	Fried.....	3 30	“	Boiled.....	2 25
Fowl, domestic.....	Boiled.....	4	“ wild.....	Roasted.....	2 18
“ “	Roasted.....	4	Turnips, flat.....	Boiled.....	3 30
Goose.....	Roasted.....	2 30	Veal, fresh.....	Boiled.....	4
Lamb, fresh.....	Boiled.....	2 30	“ “	Fried.....	4 30
Liver, beef's, fresh.....	Boiled.....	2	Venison steak.....	Boiled.....	1 35

Kind of Food Required—If we eat only those articles most easily digested, the digestive powers will be

weakened for want of exercise; while if we pursue the opposite course they will be exhausted by overwork. The kind and amount of food should therefore be adapted to the maintenance of the digestive powers when in health and to their gradual invigoration when debilitated. However, the most easily digested food is not always best for a person recovering from sickness, because if it passes too readily through the digestive process it may bring on a relapse into the original disease. Thus water-gruel is often better for a convalescent than beef-tea and fish, though the latter are more easily digested.

Animal or vegetable food—It is not yet well settled which of these is better adapted to nourish man. The people of the torrid zone subsist chiefly on vegetables, and a large proportion of these are fruits; while those of the frigid zone live principally on fish and flesh. There is little doubt that in this both obey the condition of health peculiar to either climate; though in the latter very little choice is possible. It would seem to follow, then, that a mixed diet of animal and vegetable food, the proportion of either varying with the latitude, is best for the inhabitants of more temperate zones. The form and arrangement of the human teeth, as well as the structure of the stomach and intestines, would, perhaps, lead us to conclude that a mixture of animal and vegetable food is, on the whole, best for all, wherever they may happen to live.

Adaptation of food—The distensible character of the stomach and alimentary canal should determine this. While the human stomach will be full if it contain but a gill, it may be so distended as to hold a quart, or even more. The intestines, also, are extremely distensible. Now, if this distensible quality is unused, as it must be if only nutritious food is used, they become at last inca-

pable and diseased. The digestive organs absolutely require the stimulus of distension and friction caused by the passage through them of a considerable quantity of wholly innutritious material. This is the reason unbolted flours are so generally prescribed for dyspeptics ; and, as it is quite evident that the natural tendency of sedentary habits is in this direction, enfeebling the appetite and the whole digestive apparatus, persons so employed ought to be particularly careful on this point.

Any one in whom there appears a tendency to either diarrhea or constipation, may generally so apply this principle as to check the tendency and be restored to health without other aid. In diarrhea the food should contain a very small proportion of waste or innutritious matter ; while in constipation the proportion of waste should be as large as practicable.

Season and climate—These should always be considered in the selection of food. In cold weather, food of a highly stimulating character may be used, almost with impunity, by persons to whom such food would be very injurious, and even highly dangerous, if used in a milder temperature. The proportion of animal to vegetable food, therefore, should be greater in the winter and smaller in the summer.

Age of the eater—Every one understands that the digestive organs of a young child are much more delicate and sensitive than those of an adult, and that they cannot, therefore, bear the same strong and rough food. This is true, also, of a very aged person, who seems, in body as in mind, to experience a second childhood. A nutritious, unstimulating, vegetable diet, as soon as warm weather sets in, is very important to those whose digestive organs are highly impressible or diseased.

Modifying habits—This influence is very powerful.

The custom makes the man. If one who has been used to a vegetable diet changes suddenly to animal food, or *vice versa*, the whole system receives a shock, and disease is likely to follow, especially of the digestive organs. If a change in the manner of living is necessary, it should be brought about very gradually. Even a change from a bad to a good habit may be too sudden and violent.

Food and temperament—It is obvious that a food quite proper for one temperament would be entirely too stimulating for another; and the reverse of this is also true; that is, it might be too little stimulating for another. People of dull sensations and slow movements, as a rule, will be benefited by a large proportion of animal food; while quick, susceptible and nervous persons require a nutritious and unstimulating vegetable diet.

MANNER OF TAKING FOOD.

This is of very great practical importance, as the health of the digestive organs very largely depends upon it; and this is a thing so fixed and certain that circumstances need hardly ever modify it.

Regularity of eating—The character of the food, and the age, health, exercise and habits of the individual, should determine the intervals between meals. Every one will understand that the digestive process is much more rapid and energetic in the young, active and vigorous than in the aged, indolent and feeble; and food must, in consequence, be taken more frequently by the former than by the latter. Food may be digested in one hour in a young and vigorous person, which would require four or five hours in others. However, the average

time of digestion will be from two to four hours ; and the stomach will require from one to three hours to recruit its exhausted powers after the labor of digesting a meal, before it is well prepared to enter upon a new task of the same kind.

Not too frequent—The secretion of gastric juice will be insufficient, and the contraction of the muscular fibres too feeble and imperfect, rightly to perform the work of digestion if food is again taken before the stomach has had time to regain its tone and energy. If taken before the work of digesting the previous meal has been completed, the effects will be still worse ; because the partially digested food becomes mixed with that last taken, and the stomach is burdened with the whole mass, which has become at once too large for its already fatigued and exhausted forces. The intervals between meals should therefore be long enough for the whole quantity to be digested, and for a sufficient period of repose of the exhausted organs. The importance of these suggestions increases in proportion to the feebleness of the person and the debility of the stomach. They should be regarded especially in the feeding of infants and older children. Persons recovering from severe illness should pay special heed to them if they wish to regain flesh and strength rapidly. The rapidity of the digestive process, other things being equal, is in proportion to the habitual activity of the life ; and persons of sedentary habits are therefore more liable to eat too often than others of more busy and stirring pursuits ; and the consequences with the former are worse.

Mastication—This should be as nearly complete as possible ; that is, all solid articles of food should be reduced to a state of comparative fineness by chewing before they are swallowed. The gastric fluid will then mix

with it more readily, and act more vigorously in reducing it to chyme. "Bolting," that is, swallowing food slightly masticated, tends to derange the digestive apparatus and impair the nutritive powers.

Motion of the jaws—This should be slow rather than quick, so that the salivary glands may have time to secrete a sufficient quantity of saliva to moisten the food. If the food is swallowed unmoistened by saliva the digestion is retarded; besides, in rapid eating, more food is taken than the system demands, or than can be easily digested. Laborers and business men, as well as people of more leisure, should have ample time for taking their meals. Imperfect mastication is a potent cause of dyspepsia.

No drinking at meals—The use of tea, coffee, water or any other fluid, is not required by nature's laws while taking a meal, because the salivary glands are intended to supply fluid to moisten the solid food. "Washing down" the food with drink, instead of slowly moistening it with saliva, tends to produce disease not only in the salivary organs by leaving them in a state of comparative inactivity, but in the stomach also by the deficiency of the salivary stimulus. Besides, large quantities of fluids, used as drinks, unnaturally distend the stomach and lessen the energy of the gastric juice by diluting it. These drinks, when taken into the stomach, must be removed by absorption before the digestion of the food can be even commenced. Drinks should never be placed on the table until the solid food is eaten. The horse will never voluntarily leave his provender nor the ox his hay, to wash it down. If we would be as healthy as these animals, we should be as natural in our habits of taking food. Drinking largely at meals is a mere habit, and a most unnatural and unhealthy one.

Thirst—This sensation does not always arise from the demand for fluids to increase the water of the blood, as in desire for drink which accompanies free perspiration : in this case, water or some other drink is absolutely necessary ; but it often results from fever or local disease of the parts connected with the throat. In these instances thirst may be allayed by chewing some hard substance, such as a dry cracker. This excites a secretion from the salivary glands which removes the sensation. In thirst, from a heated condition of the system, this practice affords relief and is safe ; while the practice of drinking large quantities of cold fluids is unsafe, and should never be indulged.

Hot food and drink—It should not be taken very hot. When this is done, the vessels of the mucous membrane of the gums, mouth and stomach are unduly stimulated for a short time : this is followed by a loss of tone and by debility of these parts. The practice is a fruitful cause of spongy gums, decayed teeth, sore mouth and indigestion. But neither should it be taken very cold. If a considerable quantity of very cold food or liquid be taken into the stomach, the tone of the system will be impaired and the health endangered, by the sudden abstraction of heat from the coats of the stomach and surrounding organs, to impart warmth to the cold food or drink. This arrests the digestive process and the food is kept in the stomach too long and produces oppression and irritation. Food and drink warmed, rather than heated, are best suited to the natural condition of the digestive organs.

It may have been observed that the inferior animals, as well as man, are injuriously affected when a bad quality of food is taken into the stomach, or taken in an improper manner. Cows, fed on unhealthy slops, as they are likely to be in cities, decay and go dry in about

two years. Is the milk of these diseased animals a safe nourishment for children?

CONDITION OF THE SYSTEM.

Violent exertion—Severe exercise, of either mind or body, should not be taken immediately before or after eating; because all organs, when in action, require and receive more blood and nervous fluid than when at rest. Of the brain, muscles and vocal organs, this is especially true; and whatever of unusual supply they receive must be taken from other parts of the system. Of course, then, the parts from which these are drawn must be correspondingly weakened. Again, after such an extraordinary local demand and supply, some time must elapse before the tide can be arrested and turned to other organs, so as to reëstablish the equilibrium of the system. Severe exertion, therefore, of any kind, should never be made within a period varying from thirty to sixty minutes of the time of taking a meal. This interval may be passed in cheerful amusements or conversation. The prevailing practice, among all sorts of people, of passing at once from severe employment to meals and from meals back to work, does much to undermine the health of all the mental and physical laborers of this country.

To satisfy himself of the soundness of this theory, an Englishman had two dogs fed on the same article of food and while he permitted one of them to remain quiet, he sent the other in pursuit of game. At the expiration of an hour he had both dogs killed. The stomach of the one that had remained at rest was nearly empty, the food having been properly changed and carried into the

alimentary canal; while, in the stomach of the dog that had been running, the food remained in nearly the same state in which it had been eaten. The same fact is true with man, with this difference, that his organs being more delicate, he is more liable to deep and permanent injury from a similar cause. The Spanish "siesta," or after-dinner sleep, would be no bad custom to engraft upon the habits of the Anglo-Saxon race. It is true that, in some instances of strong health and constitution, persons may seem to violate the law with impunity; but outraged Nature will, sooner or later, have her revenge. The Spanish custom might, perhaps, be substituted and improved, by an hour of gentle exercise or pleasant recreation before and after meals; as these facilitate digestion and help to sweep "the cob-webs from the brain." No judicious horse-master rides or drives his animals as soon as they have swallowed their food, because he knows that this makes them dull and sluggish and tends to impair their efficiency. What a pity that he cannot be induced to treat himself as kindly! *

The passions—All have observed their influence upon the appetite. Let a man, sitting at table and beginning the enjoyment of a hearty meal, receive suddenly intelligence of the death or dangerous illness of a dear friend, or be made violently angry, or unusually excited in any other way; and note the effect upon his appetite. It disappears as if by magic. This is merely because the blood and nervous fluid have been drawn away from the stomach to supply the violent demands of those other organs which were roused to action by the stimulus of passion. Let the passion be calmed and a proper interval elapse and he will turn hungrily to his meal. This shows the importance of shutting out the "shop" from the meal; of avoiding, at that hour,

absorbing thoughts and discussions; and that every one who appears at the board should show only the lightest and sunniest phase of his temper and character.

Prostration of the nervous system—Indigestion from this cause should receive very careful attention. The food should be simple, nutritious, moderate in quantity, and taken at regular intervals. The nervous prostration is increased by large quantities of stimulating food taken frequently. That the brain may be excited to a natural and healthy action, and so impart the needed stimulus to the digestive organs, open-air exercise should be combined with cheerful conversation.

Food before retiring—Nothing should be eaten for at least three hours before going to bed. Unpleasant dreams or colic-pains are frequent effects of going directly to bed after a hearty meal. The reason of this is, the brain becomes partially dormant by sleep, and thus fails to afford the digestive organs the requisite nervous stimulus. As a consequence the food lies undigested on the stomach, producing local oppression and irritation.

A physician of our acquaintance was called on by a famous hunter of the Virginia mountains for a prescription for nightmare—not to cure, but to cause it. His old woman, he said, complained mightily of it; but he thought she was shamming to excite sympathy. He would like to have it once, just to know what it was. The doctor directed him to go home, spend the next day in hunting, and just before going to bed at night to eat as much as he wanted of bacon and cabbage. When his rueful face next appeared in the physician's office, he said, "Doctor, I know all about it, and the old woman wasn't shamming a bit."

Small quantities of food—Only those should be taken of a mild, unstimulating character, when the general

system is feeble and the digestive organs weak. To a half-famished man, or one recovering from dangerous illness, this rule is imperative. Too much food will then almost certainly kill. The weak stomach, after its long inaction, is as unfit for hard labor as are the muscles. Under these circumstances knowledge and prudence, rather than appetite, should direct the giving of food. It is a popular fallacy, that "food never does harm when the appetite calls for it." The animal and vegetable broths are a convenient form of food in cases of great prostration, when the system needs immediate nourishment, because liquids are more rapidly removed from the stomach by absorption.

The skin and digestion—It is an important fact, though few people seem to know it, that the condition of the skin exerts a powerful influence on the digestive organs. The action of the stomach and its associate organs is diminished whenever free perspiration is checked, either by want of cleanliness or chills. Many liver and stomach complaints owe their origin to this cause. Many diseases of the alimentary canal, also, commonly called "summer-complaints," might be prevented by attention to clothing and bathing.

Tight clothing impairs digestion—The ribs are raised, and the central part of the diaphragm lowered from one to two inches at each full drawing of the breath. This depression is accompanied by a relaxation of the outer abdominal walls. When the breath is thrown out the abdominal vessels contract, the ribs are depressed, the diaphragm relaxes, and its central parts ascend. These movements cause that raising and lowering of the stomach, liver, etc., which form the natural stimulus of these organs. Of course, these movements cannot take place freely in persons who dress tightly; and the tone and vigor of the digestive organs in those

persons is consequently impaired. A confined waist will not permit a full and deep inspiration; and thus it is that tight dressing soon enfeebles and destroys the digestive functions.

Relation of pure air to digestion—A keen appetite and strong digestion depend greatly upon pure air. Pure blood cannot exist in the system except when we breathe a pure air; and the digestive organs need not only the stimulus of blood, but of pure blood. It has been noticed that the mouth and throat of those persons who sleep in small and badly ventilated rooms, are dry and unpleasant in the morning, and they have little or no appetite; and this is the reason of it: impure blood lessens the desire for food and weakens the digestive organs. The following incidents will indicate this:

It is said of an innkeeper, in London, on no less an authority than that of Dr. Reid, in his work on the "Ventilation of Rooms," that when he spread a public dinner, he always did so in a low and ill-ventilated basement-room; and that he assigned, as his reason for this, that his guests consumed only about half as much food and wine as they would have done if more pleasantly situated.

It was stated, before a committee of the British Parliament, by a manufacturer, that he had taken away an arrangement for ventilating his factory, because he noticed that his hands ate much more after his mill was ventilated; and in effect, that he could not *afford* to have them breathe pure air. The impure air of the rooms they occupy causes many of the cases of indigestion among clergymen, seamstresses, school-teachers, sedentary mechanics and factory operatives; and they may be prevented or cured by attending to ventilation.

Evacuation.—This is a daily necessity for the preservation of health. There is, very frequently, an inactive

or costive condition of the alimentary canal, in chronic diseases of the digestive organs. This may always be relieved by friction over the abdominal organs, and by making an effort, at some stated period of each day (evening is best), to evacuate the residuum. Regard should be especially had to regularity in this matter in acute diseases, such as fevers. For those afflicted with piles, the best time for evacuating the bowels is immediately before retiring for the night; for the reason that, during the night, while the body is in a recumbent posture, the protruding part returns to its proper place, and the surrounding organs acquire added tone and strength to retain it there. The bladder, as well as the intestinal canal, should be regularly and frequently evacuated. Most distressing and incurable complaints are caused by bad habits and false delicacy in this particular. Teachers should be especially careful, in this respect, with regard to their younger pupils.

THE MUSCLES.

The Law—That, whenever a muscle is called into use, its fibres increase in thickness, and that it correspondingly diminishes with disease, is the law of the muscular system. The force of action of a muscle is proportioned to this thickness. In other words, the action and power of any organ measure each other. In order, then, that the muscular system may be prepared to meet the demands of nature and occasion, it must be exercised.

Limits of the law—These are full growth, or the maturity of life and power. Whenever the muscles act, the flow of blood is increased in the arteries and veins. This increased flow causes a more rapid deposit of the

matter of which the muscles are composed. The deposit of new material will be in excess of that removed, and the size and energy of the vessels increased, if the exercise is equal to the power of the system. So the muscles become strong by use, or labor.

Excess—Exercise, either for pleasure or profit, should never be carried to the point of exhaustion—though this should be distinguished from fatigue—if one wishes to secure their utmost capacity. The hard labor frequently diminishes their weight, by several pounds, within a few weeks. This is illustrated, also, by the attenuated frames of overtasked domestic animals. The loss, in these instances, exceeds the new deposits of material. In a word, the muscles are lessened in size, and diminished in power, whenever the exercise is continued so long as to produce a feeling of exhaustion.

The practical inference—The strength should be the measure of exertion. Any other rule will fail to invigorate the system. Exercise and labor must therefore be adapted to the strength of the individual. If a mile of riding or walking causes slight fatigue, this may be beneficial; while the exhaustion occasioned by doubling the distance may prove highly injurious. It is therefore plain, that the same amount of exercise will not do for different people.

Rest—The long strain on a muscle enfeebles its action and impairs its contractability. One can hold the arm extended but a short time, whatever effort he makes. This holding out of the arm, with a book in the hand, is sometimes inflicted as a penalty in schools; and it is a severe one. Most boys would prefer a sound whipping. The law of health is, that relaxation must soon follow contraction; or, in other words, that rest must follow labor.

School—Frequent, though short, recesses are neces-

sary for small and feeble children; the younger and feebler the children, the greater the necessity. This is founded on the organic law, that muscular action must be alternated by rest. Any one may notice that the small children in a school room, after sitting a short time, become restless. A change of position, for a short time, will enable their imperfectly developed muscles to regain their strength, when they will again support the spinal column without pain.

Exhaustion—This is the constant and necessary effect of continuous muscular contraction. No difference how seemingly light and easy the exertion, its continuance becomes, after a time, intolerably wearisome. The mere motion of a finger, if long continued, exhausts the whole frame. Change of employment brings a new set of muscles into play, and is often equivalent to rest.

The utmost muscular capacity—This is to be attained not by prolonged exertion, but by taking sufficient time for rest. Of two men of equal strength, the judicious and understanding one, who never hurries and who rests at regular intervals when the muscles require relaxation, will accomplish far more labor, in a protracted time, than the nervous, overstrained and long-continued exertions of his competitor. This principle may be profitably applied to the labor of domestic animals, as to all other kinds of employment. Convalescing invalids frequently suffer relapses, from inattention to this law.

A common experience—Neither growing youths nor habitually hard-working men can endure the severe muscular strain which can easily be borne by those who are at once mature and unexhausted. Napoleon I. complained that his boy-conscripts could not bear the severe marches of his campaigns; and in our own war between the States, the young men from the towns and cities were found capable of sustaining vastly more hardship than the

young men from the country. This was owing, in the first instance, to immaturity, and in the second, to the habitual exhaustion of the farm-laborer.

Graduation of exertion—After rest, the first motions should be slow, and the increase, to strong or violent exertion, very gradual. Of a task requiring several hours for its completion, considerably less than half should be performed in the first half of the allotted time. On this plan, we should conduct the labor of domestic animals. The reason for this is, that the muscles require more blood and nervous fluid when in action, than when at rest; and as the circulation of these fluids can only be increased gradually, it follows that sudden and violent muscular exertions have an effect similiar to that of working machinery unoiled; that is, the friction of the parts consumes the very substance of the machinery.

Gradual rest—This is also important. If one has been making violent or long-continued exertions, it is better to substitute some other or gentler exercise, than to turn immediately to rest. Thus, time is allowed for the reflux of the blood and nervous fluids into their ordinary and more diffused channels, instead of allowing them to stand and stagnate, so to speak, when the muscles cease to use them. The stiffness and soreness of the muscles, after rest, is an evidence that the change, from exertion to repose, was too sudden. If the skin be covered with perspiration, produced by the severity of the labor, this suggestion is so much the more important. Never sit or lie down to rest in this state. It is the well-known and proper practice of great walkers, and other athletes, to have themselves well rubbed down, like race-horses, before they go to rest.

Pure Blood—This affords the highest muscular stimulus; and pure blood can only come from a strong and healthy digestion; and this again depends on a

clean and properly warmed skin, pure air, abundant sunlight, and the free and unrestricted movement of the ribs, diaphragm and lungs. It is of great practical importance, to both men and women, to observe these conditions, whatever may be their vocation or mode of life.

Open-air exercise—This is important for the reason that, the purer the air we breathe the more stimulating will be the blood supplied to the muscles, and the longer continued may be their exertion without fatigue or injury. Thus, also, we see the importance of thoroughly ventilating all inhabited rooms, and especially sick-rooms. The patient can sit up longer when the air is pure, and finds his strength and appetite in every way improved. This is the reason a patient can sit up longer while riding in a carriage than in an easy chair in the room where he has been ill: it is the difference made by pure and impure air.

Light—Exercise should be taken as much as possible in the light of day; and, unless the sultriness of the hour or season forbid, in the full sunlight. Men and animals, as well as plants, require the stimulus of this agent. It would be well if all shops, kitchens and sitting-rooms could be situated on the sunny side of the house. Students, especially, should take their exercise during the day, and laborers shun night-tasks. Like plants that grow in the shade, persons who dwell in dark rooms are paler and less vigorous than others.

Regular and frequent exercise—Days of severe toil, followed by days of idleness—such is the custom of the savage and unreasonable man. Exercise, on the other hand, should be regular and frequent. Food is not a better means of invigorating the system, and should not be taken more regularly or frequently than exercise. A weekly fast of twenty-four hours is not more absurd and unnatural than a weekly suspension of

exercise for a like period. It is not more true—though a matter of common experience and observation—that people who, from mistaken notions of religious obligation or otherwise, practice fasting, ruin their health thereby, than that those who abstain from daily exertion, for these or other reasons, injure themselves correspondingly. Thomas Carlyle says he came out of a three-days' fast with a Devil of Dyspepsia that has haunted and cursed his whole life; and many a man and woman, if they only knew it, have emerged from corresponding periods of idleness with the twin of that same Devil of Dyspepsia. It is true that the evil consequences of neglect of exercise steal more slowly and gradually upon their victim, but they are not the less dangerous or deadly; and sooner or later they are manifested in muscular weakness, irritability and dyspepsia.

Kind of exercise—That species is best which calls into action the greatest number of muscles. For this purpose farm labor and domestic employments, care being taken that neither is pursued to the point of drudgery, are the best as vocations; and fencing, sparring, archery, quoits and dancing, where the place is open and the air pure, are the best among the pastimes. It is all-important that every part of the muscular system should have its proper share of exercise.

The proper hour—While this must depend largely upon circumstances, as a general rule morning is better than evening, when the air is pure and the ground dry; because the physical powers are greatest in the morning. Shortly before or after meal-time severe exertion should be avoided; though gentle, recreative exercise is better than complete idleness on either of these occasions. So, severe mental toil should be hedged about by a similar period of recreation, separating it from violent physical exercise. Where circumstances will at all permit, it is best to observe these distinctions of time.

Effect of sleep on the muscles—The wearied and exhausted condition of watchers, night-police, and others who spend a part or the whole of the night in some active employment, illustrates the fact that it is not well, if it can be avoided, to invert the common hours of rest and labor. The reason of this must lie in the fact that the quality of the day-sleep is not equal to that of the night: it is neither so sound nor so refreshing. The quiet hours of night seem sacred to repose; and the alternation of day and night seem specially adapted to the wants of the system. The muscles require sleep to restore their wasted energies; and the best sleep is their best restorative.

Compression—Any compression is injurious to the strength and tone of the muscles to which it is long applied, for the reason that it prevents the free passage to them and through them of the blood which is their only source of supply. This may be illustrated by the case of a man with a broken limb: the compression of the bandages lessens in a little while the size of the limb; and this can not be restored until they have been removed. In this way, tight dressing enfeebles, and, in the end, paralyzes the muscles of the back, and produces curvatures of the spine, projecting shoulders and diseased lungs. Every unyielding substance, such as whalebone, wood and steel, should be banished from the toilet as enemies of life.

Mind and muscle—A full, nervous impulse is essential to the most energetic muscular action, and this the mind alone can supply. This is the secret of the preternatural strength of anger, and of other great excitements. So, the tone and contractile energy of the muscular system are always, though in a less degree, dependent upon the coöperation of the mind. Every one has experienced the fact that less fatigue attends and follows exertion,

under a buoyant and healthy mental stimulus, than without it. While reluctant labor is exhausting, cheerful and willing labor leaves hardly a trace of toil. A successful sportsman pursues his game without any sense of fatigue; while, if unsuccessful, he finds it a task to drag himself along. In war, when the long march seems to have exhausted every muscular energy of the tired troops, let but the enemy appear and every one is on the alert and ready for vigorous action; while, should the alarm prove false, the mental stimulus is withdrawn and lassitude again falls upon the army. Therefore it is, that more depends upon the habitual spirit of the soldier, than upon the bulk and strength of his muscles, and that striplings have so often out-wearied and out-marched the sturdiest veteran in the ranks. So, in the daily avocations of life, if the mind have some cheerful or noble incentive to toil, the tiresomeness of labor is greatly diminished. Those men are the true captains in the army of labor, who are capable of inspiring the workmen whom they control with a cheerful and willing spirit. One such foreman or overseer is worth, for the interest of his employer, half a dozen of the dull or driving sort. Hence, also, walking for mere exercise—though this is better than no exertion of the muscles—is comparatively irksome and unprofitable. Let your daily walk have some errand or objective point, to which the mind can look with interest, and health and strength will more speedily result.

DIVISION SIXTH.

WATER CURE—HYDROPATHY.

Says Dr. Shaw, "hydropathy, or the water-cure—a system which has for its medicaments water, air, exercise, and diet, is the greatest of all medical improvements which is destined, not only to make the members of communities their own physicians for the most part, but to mitigate, in an unprecedented manner, the extent, the pains, and the perils of disease."

THE WET-SHEET PACK.

In this process we use a coarse linen sheet—although a coarse cotton one answers tolerably well—of length sufficient to reach from the patient's head to the soles of his feet, and about two yards in width. The bed is stripped of all its covering, one or two pillows only being left for the patient's head. One or two comforts are then spread upon it, and over these a like number of woolen blankets, which are not so much injured by the wet as cotton comforts. Or, what is better, but more

expensive, we may use blankets only, two or more pairs as they may be needed. The sheet having been pretty well wrung out of cold water—pure and soft always if such can be had—is then spread out as smoothly as may be upon the upper blanket. The patient being undressed, lays himself at full length upon the sheet, and holding up his arms, an assistant laps one side of it over the body and lower limbs; the arms are then dropped at the side, after which the other part of the sheet is lapped over as before. The blankets are then, one by one, brought over the person in the same way, and tucked under from “head to foot,” and then comforts in the same manner, if such are used. It is best always to place a wet towel covered with a dry one on the patient’s head while he is packed, or if it does not chill too much, the dry towel may be left off. This is the ordinary way of taking a “pack” in *chronic* disease.

THE WET DRESS.

A modification of the wet sheet, and in some respects an improvement, is to have a coarse linen or cotton dress made with large arms, so that one may take the application without help. The dress once applied, the patient lays himself upon blankets, in which he wraps himself just sufficiently to become comfortable. Or he may have flannel dresses to put on over the wet, and then lie in a common bed. In this application the air is not excluded from the surface to anything like the same extent as in the common tight pack. Hence, a patient may remain in it half or the whole of the night if he chooses, being careful to become neither too warm nor too cold. Rewetting it once or twice in the night will be of service. Often in a single night a bad cold may be thrown off in this simple way.

THE HALF-PACK.

Patients not unfrequently present themselves in whom the reactive energy is so low that a "half-pack," as it is called, will be tolerated, while the entire sheet would abstract too much caloric from the body. In such cases the sheet is applied so as to extend only from the armpits, or, at most, from the neck to the hips, leaving the lower extremities, as it were, in the dry pack. Sometimes, also, the sheet is allowed to extend to the ankles, not including the feet. Packing the trunk of the body in wet towels acts upon the same principle as the partial or half pack, and is in many cases a valuable preliminary measure. These precautions it is well to observe where a feeble patient, who has suffered long from chronic disease, is beginning with the envelopment.

THE FOLDED WET SHEET.

As a modification of the wet-sheet principle, I have often used in domestic practice the following application: A common sheet of coarse quality is folded four double, which leaves it large enough to encircle the trunk of the body from the armpits down. Two thicknesses of the sheet, to come next to the body, are wet in cold water, or the whole of the sheet, according to the case. In a host of painful ailments, such as pleurisy, inflammation of the lungs, inflammation of the bowels, colic, cholera, cholera-morbus, rheumatism, painful menstruation, after-pains, etc., etc., this is the most valuable application. Often this remedy, which can be applied in a minute, as it were, will soothe a patient quickly to sleep,

while without it a night of agony would be his lot. One advantage, too, of this appliance is, that if a patient is too weak to rise, the sheet may be opened in front, so that fresh water may, when needed, be sprinkled upon it, and wet towels may be added under it, upon the abdomen if necessary.

THE DOUCHE-BATH.

This is the most powerful, but not the most useful, of all hydropathic appliances. A common douche consists of a stream of water from one to two inches in diameter, with a fall of ten, fifteen or twenty feet. But douches may be arranged of any desirable size and height.

This remedy is useful in paralysis, stiff joints, gout, rheumatism, tumors and old swellings of various kinds. Those who have weak lungs, stomach or other abdominal organs, should not resort to the douche without the best of medical advice.

SHOWER-BATH.

This is also one of the more powerful of the hydropathic appliances, and needs judgment in its use. It consists, in fact, of a vast number of small streams or douches, and hence is a powerful refrigerant as well as excitant to the system. It should never be taken upon the head, especially if the water have any considerable force, or fall from any considerable height, *for the reason that the head should never be subjected to mechanical force.* It is useful in some cases to commence this bath only upon the limbs for a time at first.

CATARACT-BATH.

This is also one of the more powerful of the hydro-pathic processes, and is to be classed with the two preceding baths. Like those, it may be said to be stimulant, tonic and alterative, while it is also highly sedative so far as animal heat is concerned.

HOSE-BATH.

Through the modern improvements in India-rubber, gutta percha, leather, etc., it is easy, wherever there is a small fall or head of water, to arrange what is called a hose-bath. It is in principle a douche, with the additional advantage that it can be made to act upon any part of the body, and from whatever direction we choose. Rightly applied, the hose is a valuable means.

PAIL-DOUCHE.

The patient seats himself in an empty, shallow, or other bathing tub, and crosses his hands over his chest. As many pails of water as are ordered are then dashed over him suddenly, one after the other, and one before and one behind—not poured, but thrown with some force, by first a backward and then a forward motion of the pail; half the number of pails being then emptied on the back of his folded hands, and half between the shoulders behind. This bath varies in effect according to the temperature of the water and the amount used. If a number of pails are used, and the water cold, it in effect, very nearly resembles the common plunge.

THE WAVE, OR SLUICE-BATH.

What is generally called in Germany a wave, but more properly a *sluice-bath*, is taken at the sluice-way of an under-shot mill-wheel, or in any similar place. The patient takes hold of a rope or something by which he can maintain his position, and then, lying down, subjects his body to the action of the water. This is, on the whole, a pleasant and agreeable bath, and in its effects somewhat resembles the *douche*, being, however, milder and safer. The sluice-bath can hardly be said to possess any peculiar advantages. It was not used by Priessnitz, although he did not object to it.

HALF-BATH.

This bath may be used as one of the mildest of water-cure processes, or as one of the most powerful. An ordinary bathing tub is a very good apparatus for the purpose. A good-sized washing tub will answer very well, if there is nothing else at hand. The water is generally quite shallow in this bath—from three to six inches. Priessnitz's half-baths were made of wood, four or five feet long, about two and a-half feet wide and twenty inches deep. This simple contrivance is one of his most powerful means—that by which some of his highest triumphs are achieved. The water is generally used of moderate temperature, at sixty to seventy degrees Fahr., and when long continued is changed, as it becomes warm from the heat of the body. This bath may be used—1st. As a means of cooling the mass of the circulation in the hot stages of fever and inflammatory attacks of every kind.

2d. As a revulsive, or means of deriving blood in congestions or inflammations of the nobler organs, the brain, lungs, stomach, liver, etc. 3d. As a means of resuscitation in the shock of serious accidents, sun-stroke, and before, during or after apoplectic and other fits. In drunkenness and delirium-tremens the half-bath is a sovereign remedy. 4th. As a milder means and preparatory to the general bath in weak constitutions. In the latter of these indications, the bath is generally used but for a few minutes after the wet sheet, or at other times, as may be desired. In the former much practical knowledge is necessary in order to proceed always with safety and to obtain the best results. Thus six, or even nine hours may be required, with the greatest perseverance, the patient being thoroughly rubbed over the whole surface, and this to be kept up constantly by relays of assistants, the patient's head and shoulders being supported meanwhile.

HEAD-BATH.

From time immemorial, cooling applications to the head have been much depended upon in that violent and dangerous disease, inflammation of the brain. All other known means failing, certain obstinate affections of the head have been known to give way to the affusion of cold water upon the part. In headache, drunkenness, delirium-tremens, the delirium of fever, epilepsy, rheumatism of the head, diseases of the eye, earache, deafness, loss of smell and taste, and in nose-bleed, this highly energetic remedy is brought to bear.

PLUNGE-BATH.

In sea, river and lake, as well as by artificial means, and as a matter of luxury, religious observance, purifi-

cation, and the prevention and cure of disease, the plunge-bath has, in all periods of time, and in all parts of the world, been a favorite resort. So efficacious, indeed has this simple means proved in healing the sick, that not a little superstition has been mingled with it. Springs and wells have often been supposed to possess some mysterious power, and for that reason been named after some patron saint. In this respect the world has loved mystery and marvelousness rather than the pure and simple truth.

SITTING-BATH.

Convenient tubs, wooden or metallic, are constructed for this bath; but an ordinary wash-tub answers very well. The article should be large enough to admit the motion of the arms in rubbing the abdomen, sides and hips, first with one hand and then the other. Water enough is used generally to come pretty well up the abdomen. The more movement and friction, while in this bath, the better. It is more convenient if the tub be elevated two or three inches from the floor. Some undress completely, and place a blanket or sheet over the upper part of the body, but oftener the parts only of the person to be exposed to the water are uncovered. In a variety of ailments this bath is highly valuable. It may be made one of the most powerful of all of the hydro-pathic modes. Like all other powerful applications, it should be taken only after digestion is nearly or quite gone through with.

As a tonic to the stomach, liver, bowels, womb, spine, etc., this bath is highly useful. In constipation and other irregularities, it is famous. Those of sedentary habits will find its use of rare service. For the tonic

effect it is taken ten to twenty or twenty-five minutes or more. If it is continued some length of time, the water is to be changed once or more, as it would otherwise become too warm.

WASHTUB-BATH.

Under a great variety of circumstances what may be called the "washtub-bath," is an invaluable resort. For example, a patient is feverish; by seating him in a wash-tub half filled with water, and at the same time if we choose, having his feet in a pail of water, cold or warm, according to the case, we can give him any desirable amount of cooling. We cannot, indeed, too highly prize this simple contrivance for using water—a means which every family possesses.

THE AFFUSION.

The patient stands in a wash-tub, bathing-tub, or other convenient place, when by means of a pail, pitcher or basin, the assistant pours water upon the head, neck, etc., either upon the whole of the body or only upon a part. The water is used in quantity and temperature according to the necessities of the case. The affusion is one of the best of hydropathic modes.

Fifty years ago, Dr. Currie, of England, performed great cures in fever by the affusion, sometimes tepid, at others cold, according to the strength and heat of the patient. If there was great heat the water was used cold; if not, the reverse. In a variety of febrile diseases, such as typhus-fever, scarlet-fever, small-pox, measles, tetanus, convulsions, etc., he used this remedy with remarkable success.

TOWEL AND SPONGE-BATH.

With one or two coarse towels and a quart or two of water we may take a very good bath almost anywhere, even in a carpeted room, at a hotel, or wherever we may be, without spilling a drop of the water. After a person becomes accustomed to this form of ablution, none but the most indolent will be willing to do without it, unless they can have some other form of bath. A daily towel ablution, thoroughly performed, is an excellent prevention against colds; helps the appetite and digestion, and is a good means of preventing constipation.

Some are in the habit of sitting in a half-bath, or a sitz-tub, and with a large sponge making the water pass freely upon the head neck, shoulders, and other parts of the body. At the same time the bather may pour water from a cup, basin or pitcher, upon the head, neck, etc. This is a mild affusion, and stronger in effect than the towel-bath.

WASH-DOWN.

The patient stands in an empty sitting or wash-tub, beside which stands a pail of cold water with two coarse towels soaking in it. The bath-attendant, taking his place behind the patient, lifts one of the towels, all loaded with water, and lays it quickly on the patient's head. The patient immediately seizes it, removes it from his head, and rubs himself rapidly with it—his face, his throat, shoulders, arms, chest, stomach, bowels, thighs, and legs. Having gone rapidly over the whole body once, he drops his towel into the pail again, which the bath-man presses down to the bottom of the water,

then lifts out, and places it on his head again. As before, the patient seizes it, and goes all over the same ground once more, and then drops it into the water again, when the bath-man again lifts it and places it on the head to be a third time removed by the patient, and applied as before, rapidly, actively, and energetically, all over his body in front. The bath-man is industriously occupied all the time behind in the same manner, from the back of the neck to the back of the legs, wetting his own towel as often as he wets that used by the patient, viz., three times. This is called a wash-down of three towels. The patient is then dried in a dry sheet. It is a more powerful bath than the common towel-bath, but not in all respects so convenient to take.

THE COLD FOOT-BATH.

One of the first things people who are troubled with cold feet do, is to plunge them into cold water. Nor is the assertion put forth in some of the hydropathic works, that the cold foot-bath was prescribed by Priessnitz for the same purpose that the faculty order warm ones, correct. When the feet are already cold, neither Priessnitz nor any one in his sober reason would prescribe cold water, which can only make the parts colder. To obtain the good effect of the cold foot-bath, so far as the feet are concerned, they should be warm whenever it is taken. For a tendency to coldness of the feet—a very common symptom in these days of so-called luxury and refinement, and one that indicates a state of things in the system incomparably more to be dreaded than the mere coldness of the feet, this is *the* remedy. It may be taken at any convenient time; just before the morning walk is a very suitable occasion, the parts being usually warm early in the day.

At other times if cold, they should, if at all practicable, be warmed by exercise and friction, before subjecting them to the action of cold water. But in cases of old age, great debility, etc., the warm foot-bath, and other warm applications, may be resorted to before the cold. Thus with cold, exercise and friction, accustoming the feet daily and frequently to cold water, will beget in them a habit of remaining warm. In a great variety of ailments, such as toothache, rush of blood to the head, headache, earache, inflammation of the eyes, gout, rheumatism, hemorrhages, etc., the cold foot-bath is a valuable remedy. It is ordered deep or shallow, and of duration according to the nature of the case.

WADING FOOT-BATHS.

I have often directed patients to wade in water in some convenient place, as a means of hardening the system and of giving tone to the nerves. Delicate ladies who were not able, as they supposed, to endure cold water applied to the feet, have by degrees, wetting the feet but little at first, become so accustomed to the coldest water that in a few weeks they could bear as much as any one would desire. Caution and perseverance should be the rule.

It is partly by sympathy and partly by the abstraction of heat, that foot-baths and wetting the feet act in so beneficial or deleterious a manner as we know them to do. The principle of sympathy is an old one in the medical art, but none the worse for that.

THE WARM FOOT-BATH (Pediluvium).

I am aware that some who consider themselves *genuinely hydropathic*, object to the use of this remedy. Having truth for my object, however, I care not for such objections so far as I myself am concerned, and without stopping here to argue the question, I simply remark that *warmth* under some circumstances is as natural an application for the living body, as *cold* under other circumstances. I have already remarked, under the head of the cold foot-bath, that putting the feet into warm water is often a good preparatory process to that bath. It is good also, now and then, for soothing divers aches and pains, and also for warming the feet of old and weakly people, who cannot exercise sufficiently.

THE NOSE-BATH.

In a variety of nasal ailments, catarrh, colds in the head, inflammation and ulceration of the nasal passages, nose-bleed, etc., the *nose-bath* is a salutary remedy. The water is used either tepid or cold, according to the case. It should be drawn back if possible, so that it is ejected by the mouth. Those who have injured the nasal cavities by much snuff-taking, will find advantage from sniffing water freely into the nostrils. If one is determined to leave off snuff, as every one addicted to it, if he regards either health or bodily comfort, ought, he will find it useful often to take cold water, instead of the abominable weed.

THE EYE AND EAR-BATH.

Various contrivances may be brought to bear in applying water to the eye and ear. Light, ascending douches and showers are useful in various diseases of the parts. There should not be much force used in this way. Immersing them also in water is often useful. The water should not, in general, be very cold, tepid or warm being often the best.

MOUTH, OR ORAL BATH.

For inflammation of the gums, mouth, throat and palate, in slimy secretions from the throat and stomach, in toothache, catarrh, colds and chronic hoarseness, garglings and baths for the mouth are of great service. Pauley, a merchant of Vienna, has been thought singular for his zeal in recommending this bath. Clergymen and others who suffer hoarseness by much speaking, will find that holding very cold water in the mouth until it begins to grow warm, and then ejecting it, and by frequently repeating the process, much benefit will be obtained. For falling or elongation of the palate, in which it is now so much of a professional hobby to clip off the part, the gargling sufficiently with cold water will be found a never-failing remedy. Coughs and tightness in the chest may often be essentially relieved by this bath. In mucous secretions from the throat and stomach, by ejecting the water a number of times, it will surprise those who have not witnessed the remedy to see the amount of slimy secretion thrown off.



Wet-Sheet Pack.



Washing-Bath.



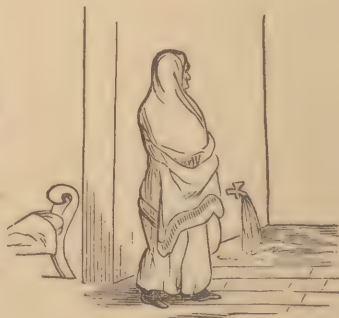
Leg-Bath.



Sitting-Bath.



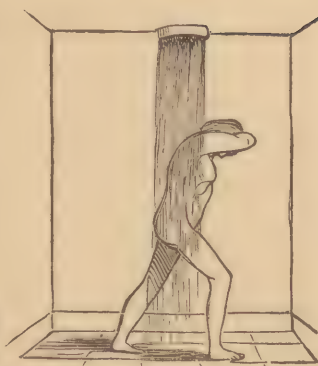
Hot-Bath.



Plunge-Bath.



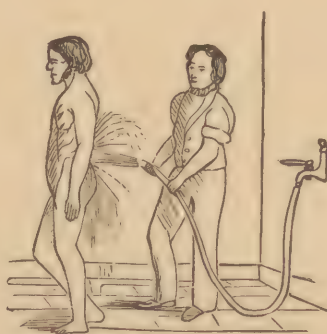
Douche-Bath.



Shower-Bath.



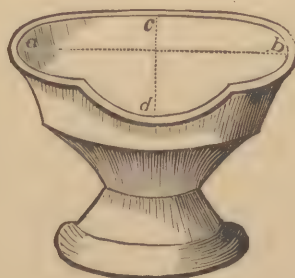
Cataract-Bath.



Hose-Bath.



Head-Bath.



Vessel,

DISEASES.

INTERMITTENT FEVER.

In the chilly stage, and still better, as some assert, somewhat before it, when the premonitory yawning and slight rigors appear, immersion in the warm bath, or perhaps still better, the vapor-bath, continued until the reaction is complete, will be found effectual—in many cases, at least—in preventing the coming on of the hot stage, and give rise in its stead to a mild perspiration.

The treatment of the hot stage, is very simple. We manage according to the pulse, and the amount of fever, just as we would in any other case. Affusion with cold water, dripping-sheets, half-baths, the cold-bath, tepid-bath, and even the warm-bath, as before remarked, bring down the heat and pulse in fever: any or all of these methods we may use; in short, the whole of the cooling plan, *according to the case*. And what is truly admirable in this treatment is, *we prevent the sweating stage*.

The *diet* is a matter of great importance in ague. An improper meal is sufficient, in many cases, to bring on an attack even after the paroxysms have been checked. I have known patients who had just recovered from ague, and were going about comparatively well, by eating a hearty supper of warm biscuit and butter, and the like articles, to be attacked again the next day as badly as ever.

BILIOUS AND REMITTENT FEVER.

Treatment—This is to be conducted on general principles. The important object is to keep down general fever. It is also important to purify the system as fast as possible. For this purpose the wet-pack is the most useful of all known remedies. We can advantageously give three or four of these applications daily, and during the intervals have the patient almost constantly in the folded sheet. If he is able to sit up a part of the time, a large wet girdle should be employed. Frequent clysters are useful, and the patient should drink as much water as he can, without oppressing the stomach. It may be taken warm for the diluent effect, if he is at all chilly.

CONGESTIVE FEVER.

Coldness and friction constitute the great remedy in all cases of severe prostration. In another place I have spoken of the Persian treatment of cholera, which consists of a great deal of friction with the hands wet in cold water—for the water is of a moderate temperature in that country—and water is also freely poured upon the patient. This is in effect the half or shallow bath of Priessnitz, which can be well enough imitated by using a good-sized wash-tub, there being two or more persons to aid in the operations. When the patient is even too weak to be held up, he can be laid upon a couch, cot or straw-bed, and the frictions may thus be practiced, with wet-sheets placed upon and about him, and frequently renewed. At the same time the freest circulation of air should be allowed in the room, and if the weather is not

decidedly inclement, it would be of great benefit to have the patient in the open air. Fresh air and coolness, generally, are what he most desires, and his feelings should be gratified to the fullest extent while the fever is upon him. Now it is scarcely within the range of possibility to give a patient a cold under such circumstances—a fact which it is of the greatest importance to remember. These frictions, besides, are to be continued as frequently and as long as may be necessary to produce the desired result. A great advantage of the treatment is, that if it is not possible to cure the patient, which I think can seldom happen if the case is taken in season—it renders the sufferings much less than they would otherwise be. The water need never be so cold as to do much violence to the patient's feelings. From 60° to 70° would be safe in the generality of cases.

The patient should at all times be allowed what drink he craves; and, singular as it may appear, warm water is found to quell the thirst and vomiting better than cold.

The cold sitting-bath should not be neglected in these cases, especially after the violence of the disease has somewhat passed off. The wet girdle should also be used all, or nearly all of the time, and a semi-daily pack, followed by the rubbing wet-sheet or the shallow-bath, would aid the patient much in his recovery.

YELLOW FEVER.

The celebrated Dr. Rush, speaking of the means used in his practice in the epidemic yellow fever that raged so fearfully in the city of Philadelphia in the year 1793, gives the following testimony concerning the effects of water:

“Cold water was a most agreeable and powerful

remedy in this disorder. I directed it to be applied by means of napkins to the head, and to be injected into the bowels by way of clyster. It gave the same ease to both, when in pain, which opium gives to pain from other causes. I likewise advised the washing of the face and hands, and sometimes the feet with cold water, and always with advantage. It was by suffering the body to lie for some time in a bed of cold water, that the inhabitants of the island of Massuah cured the most violent bilious fevers. When applied in this way, it *gradually* abstracts the heat from the body, and thereby lessens the action of the system. It differs as much in its effects upon the body from the cold-bath, as rest in a cold room differs from exercise in the cold open air.

“I was first led to the partial application of cold water to the body, in fevers of too much force in the arterial system, by observing its good effects in active hemorrhages, and by recollecting the effects of a partial application of warm water to the feet, in fevers of an opposite character. Cold water, when applied to the feet, as certainly reduces the pulse in force and frequency, as warm water applied in the same way produces contrary effects upon it. In an experiment which was made at my request by one of my pupils, by placing his feet in cold pump-water for a few minutes, the pulse was reduced twenty-four strokes in a minute, and became so weak as hardly to be perceptible.”

In a disease that is so painful, pervading, and rapid in its progress, it would hardly be possible to do too much in the beginning, and before the prominent symptoms are effectually quelled. Long-continued shallow-bath frictions, affusions upon the head and body generally, clysters and tepid water-drinking with the cooling wet-pack between times, if properly managed, make quick work in subduing all pains and uneasiness, and consequently give the patient the best possible chance.

CONTINUED FEVER.

Treatment—The treatment of continued fever is to be conducted on general principles. We are to employ ablutions, spongings, wet bandages, clysters, wet-packs, etc., according to the symptoms of the particular case, just as we would in any other form of fever, remembering always that we should treat the case as it is and not merely according to a name. The particulars of such treatment are more fully entered into under the head of "Typhus and Typhoid Fevers," to which the reader is referred.

Whenever a general feverishness, from whatever cause, is brought on in animals, they not only instinctively drink water, but immerse themselves in it, if it is possible for them to do so. It is said that in some countries wild pigs become violently convulsed by eating henbane, and that by going into water and by drinking it they recover. And when animals become feverish from mutilations or mechanical injury, they seek lying down upon the damp ground in the cool air and even in mud and wet, and go not unfrequently into the water.

Do not these facts prove beyond all cavil THAT WATER IS GOD'S OWN REMEDY FOR FEVER?

TYPHUS AND TYPHOID FEVER.

Says Dr. Currie, "The cold affusion, used on the third and fourth days of fever, does not immediately produce a solution of the disease, but it instantly abates it and by a few repetitions brings it to a happy termination in two or three days.

1. "Envelop the patient in one or more heavy wet linen sheets, according to the heat and strength, the sheets not much wrung out and to be frequently renewed, as often, at least, as they begin to grow dry. There must not be much covering over the sheets. In severe cases the patient should be kept in the wet-sheet the most of the time until the fever is broken up. As much fresh air as possible is to be admitted into the room. The sheet should always be doubled and wet towels applied to such parts as the armpits, between the limbs and wherever one part comes in contact with another.

2. "The cold-bath is given three or four times in twenty-four hours and even oftener, should there be much heat. If the patient is very weak, the water is used mild, but never higher than twenty degrees Reaumur (77 degrees Fahr.), and this should be diminished from time to time until it can be borne cold. The bath should, if possible, be administered to the patient in a reclining posture. At the same time the back of the head and neck should be bathed in water of the same temperature as the general bath, ending always with the water cold. The surface of the body should be rubbed constantly while the patient is being bathed and the bath continued until the temperature of the armpits is the same as the rest of the surface.

3. "As the patient becomes able to take nourishment, give cold milk, fruit and farinaceous food in small quantities, always cold and at intervals of the usual meals. Great care is necessary in the food. Water at all times to be drunk according to the dictates of thirst.

4. "Use the wet girdle all the time when the patient is not in the wet-sheet.

5. "Injections or clysters of pure water are to be given if the bowels do not act naturally without; the

water cold, if the patient is not very weak, one pint at a time.

“The object of the whole treatment is to supply the body amply with coolness and moisture, in order to counteract the tendency of the disease to dry up and consume the natural juices.”

MILK-FEVER.

It is of great service, in every respect, for the patient to bathe three or four times a day at such a period. The more the fever is kept in check the better.

INFLAMMATION OF THE BRAIN.

Having the patient's head projecting a little over the edge of the bed, supported by two persons, holding at each end of a linen towel, for the head to rest upon, so that a large quantity of the coldest water can be poured upon the head and neck, to be caught in a tub or bucket below, is a good mode. At the same time wet towels are to be placed about the surface of the body, and changed as often as they become warm. These answer all the purposes of the wet-sheet, and prevent the necessity of moving the patient, which it is better to avoid. Bladders of pounded ice, or pounded ice placed between wet linen cloths, laid upon the head, are very useful.

HEADACHE.

Treatment—The head-bath, head-douche, and head-affusion are invaluable remedies here. Of course, if there is general fever, *that* must be attended to in the

proper way. In a bilious fit I should neither take nor recommend calomel, as Dr. Gully has done, because if the water-treatment is applied faithfully and in a manner suited to the case, it is quicker and more effectual than the poison metal: besides, it leaves no bad effects, as calomel *always* does. I would depend, even, upon fasting and water-drinking alone, rather than resort to drugging in any-such case.

In almost any case of headache, in which the patient is able to be up, the sitz and foot-baths, cold, followed by exercise, are highly serviceable.

APOPLEXY.

Treatment—First remove all constriction from the throat and neck; and second, take the patient, if possible, into the open air; at least have the windows and doors wide open, so that breathing may be aided as much as possible. Then place him in such a position that the head may be elevated, so that by gravity the blood may the more readily descend. Take care that the head neither falls backward nor forward upon the chest. Rapid friction over the wet-sheet, with wet towels, or the hands wet in cold water, should then be made in the most vigorous manner, with the view of drawing the blood from the head. At the same time the head should be cooled as much as possible; and as soon as there is a little abatement in the symptoms, water should be poured upon the head, without, however, letting the part lie too low. Cold-water clysters are also useful. The treatment should be perseveringly followed till the patient grows either much better or much worse. Afterward the patient should be managed according to the symptoms of the case.

The *rationale* of the above treatment will be readily

understood. The great object is to arrest the current of blood towards the head, and to prevent the hemorrhagic tendency. The frictions act admirably in answering the first indication, and the cold upon the head the second; for the constringing power of cold in arresting hemorrhage is now well understood.

In case the circulation has become depressed, with pale and cold surface, we should of course proceed somewhat more cautiously in the use of cold. But even here the effort of wet-hand friction in rousing the dormant vital power will be found highly serviceable.

PALSY.

If the case is a recent one, it is to be treated according to the symptoms as they present themselves. If there is febrile action in connection with the attack, this is to be combatted on general principles. We must, however, in all cases use the milder forms of treatment, because there may be great and hidden mischief in the brain or spinal marrow, in which case powerful applications of water would be very liable to cause more harm than good, and might easily kill the patient outright.

With reference to the local parts, a great deal of friction should be used. It is not well to rub the skin off from the part, as is often done when dry friction is applied. Wet hand-rubbing is always to be preferred, since it is far more tonic than the dry, and does not injure the skin. A wet towel or other cloth may be placed about the part—the arm, for example—and rubbing practiced over it.

CRAMPS.

Friction with the hand wet in cold water is evidently better than the dry application, or that by means of

spirits, ointments, etc., which have sometimes been resorted to. The wearing of wet bandages at night upon the part liable to be affected will often, at least, ward off the attack.

LOCK-JAW.

Dr. Watson recommends the cold-bath in this affection. He remarks "that the application of cold water to the surface has, in many recorded instances, been of at least temporary benefit and comfort; and in the West Indies, where the disease is common, the cold affusion still continues to be the favorite expedient."

Some have recommended for tetanus the use of ice upon the spine, a remedy which has been found eminently beneficial in convulsions. The ice should be applied by means of friction upon the naked skin up and down the spinal column and over the whole region of the back.

Various authors have recorded the beneficial effects of warm-baths in this disease. The Germans have in some cases used the warm-bath with success. In Holland it has been a custom to immerse the patient in warm baths of broth, in which he is kept for five or six hours, at the same time having opium administered to him. The warm-bath is doubtless a valuable remedy, but in some cases of the disease, much benefit cannot be expected from it. Used in alternation with the cold-bath, it is to be recommended. At the expense of repetition, I must here remark that the *warm*-bath must not be confounded with the *hot*, an error too often committed.

The great principle to be kept in mind in the treatment of this disease is, that tetanus is a *spasmodic* affection. The treatment, therefore, must be of an antispasmodic kind. The more powerful the remedy, the more

effectual it will prove, provided it is not such as to injure or depress the vital force. Facts plainly prove that of all known antispasmodics, water is altogether the most powerful.

As to the methods of using it, due caution should be used. It is said, on the best authority, that patients have been killed by throwing two or three pails of cold water over the body, almost as quick as if they had been shot in the head. If a powerful measure is to be resorted to, it should be done when the paroxysm is at its height. Cold water has never killed a patient under such circumstances. It is only when the patient is in the opposite extreme of the disease, that a powerfully cold application proves so dangerous.

Plunging the patient into cold water, douching and all applications that tend powerfully to shock the system, have often proved beneficial in quelling the tetanic paroxysm; but passive cooling—such as gives no severe shock to the system—is to be preferred. The shallow-bath, therefore, prolonged and with wet-hand friction, is to be highly recommended. It should be remembered, however, that as the disease varies from a very slight to a most severe and terrible one, so should the treatment be made to vary accordingly. If a poor sufferer is so bent up with cramp of all his voluntary muscles that he can only touch his head and heels to the bed, be assured it is no boy's play to treat his case. To bring down such spasms as make a man's muscles hard and stiff as a board, is to be accomplished only by the most powerful means. If we know how to manage the more severe cases, the lighter ones will be no difficult task.

HYDROPHOBIA.

In regard to removing the irritation of the throat, Dr. Hooper tells us that it has never been effectually fulfilled

in any other way than by the use of ice taken internally. Here, also, the prolonged shallow-bath—that greatest of all hydropathic appliances—would be of signal benefit. Ice cannot be had in all situations, and it is a satisfaction to know that in hydropathy there are various means of arriving at the same end.

In connection with the swallowing of ice, or the cold shallow-bath, whichever might be used, or both in connection, clysters of cold water often repeated would be a serviceable means, not only to arrest the trouble at the throat, but the nervous symptoms generally. If the patient should be very weak, tepid water could be used instead.

NEURALGIA.

As a local application in this disease, ice, and ice-cold water have been found to afford much relief. Steaming the part affected has been useful in some cases, and the hot douche—a remedy which can seldom be obtained—has been of service in subduing the pain. Dry heat, applied by means of a hot iron, or hot coals, held near the part as long as the patient can bear it, affords relief in some cases. Steaming the part with a hot brick or stone, with a wet cloth wrapped about it, has certainly done well in relieving rheumatic neuralgia of the back. Covering the part with oiled silk and cotton or wool, helps to keep off the attacks in some cases. In general, however, I am inclined to think that the cold applications are more effectual and permanent in their action.

M. Gaudett, a French writer, asserts that facial and cranial neuralgia and hemicrania have, in his experience yielded to no therapeutical remedy with the same facility as to sea-bathing, by immersion and affusion. The same writer holds also, that sciatica, even when occurring in

debilitated subjects, and of long standing, yields to what he calls the tonic and sedative effects of sea-bathing. In all these cases it is the improvement of the general health that occasions the cure. The effect of bathing is only indirect. The cures are also strictly hydropathic, the salt of itself having no good effect.

INJURIES OF THE NERVES.

The water-dressing is as favorable a remedy in the wounds of nerves as it is in other kinds of injury. No other method can at all compare with it.

EPILEPSY.

Cold affusion upon the head, in the manner recommended in hysteria, is highly useful. We know that in such cases there is turgescence and too great fullness of the blood-vessels in the brain. Cold, by its constringing effects, drives away the superabundance of blood, thus moderating and shortening the fit. The effect of cold on the nervous system in these cases is also beneficial: it rouses the dormant powers of the system, and aids in preventing the debility that follows such attacks.

ST. VITUS'S DANCE.

The rubbing wet-sheet and wet frictions generally are to be highly recommended for their antispasmodic and tonic effects. The wet-pack, properly managed, is valuable for its *soothing* effects. There is, in fact, no hydropathic process which cannot be brought to bear in this disease, as we find it in different cases. Dr. Wood, and

various other authors, also mention the good effects of sea-bathing. It should be managed, of course, upon scientific principles, according to the nature of the case. As with other potent remedies, what might be valuable for one, would in the case of another produce only harm, and perhaps dangerous effects.

CONVULSIONS.

Dr. Currie informs us that in the convulsions of children he found the cold-bath a most useful remedy whether the disorder originated in worms or other causes. He had seldom known it to fail in stopping the paroxysms, at least for some time, and thereby giving an opportunity of employing the means fitted to remove the particular irritation. In early infancy he used it with caution, and generally by affusion, tempering the water when the weather was cold. In general he made the applications of cold in this way sudden and transient, and employed means subsequently to secure reaction. When the vital energy seemed much exhausted he avoided the remedy entirely.

It is to be remarked that Dr. Currie, as a deduction from the experiments he had made, insisted strongly on the principle, "that the benefit derived from the cold-bath in convulsive diseases depends on its being used in the paroxysm of convulsion; *that its efficacy consists in resolving or abating the paroxysm; and that when this effect is produced, the return of the paroxysm is greatly retarded, if not wholly prevented.*" All subsequent experience has proved the correctness of the principle thus plainly expressed by this able author.

In many cases the shallow-bath, rubbing wet-sheet, and other forms of applying water by wet friction, will be found to prove more successful than the above meth-

ods of this author. Cold affusion on the head, particularly when the part is hot and the patient not very weak, is a valuable remedy in many of these cases. Cold injections, if the patient is not particularly weak, and in other cases the tepid, should be freely used in all convulsive attacks. It matters not so much whether the bowels are constipated or otherwise, the effect is good. In all the water management of these cases, of course, we should do no violence to the system, and the treatment should be managed prudently, according to the patient's constitution and the nature of the attack.

All kinds of convulsions are to be treated on the same general principles, whatever the cause. The great thing is by cold water, wet-hand frictions, and the like, to rouse the blood into a better and more general circulation. Pouring cold water on the head would seem to promise well in these cases, because the black blood stagnates in the brain in a remarkable manner; nor should any of the before-mentioned appliances be omitted if the case should prove obstinate.

CATALEPSY.

Treatment—This should be managed for the most part the same as hysteria. If there is great rigidity of the muscles, a large amount of wet-hand friction may be necessary. The water should be used cold.

TRANCE.

Treatment—In these cases, as in hysteria, there is nothing that is at all comparable to water as a means of restoring the nervous power. The treatment should be similar to that for hysteria.

HYSTERIA.

Treatment—The treatment of hysteria is divided properly into two heads: first, that which relates to the paroxysm; second, the means of preventing the attacks.

In severe cases care must be taken that the patient does not injure herself during the spasms. It would be easy for her to do harm with her hands or teeth if she were not properly looked after. No time should be lost in "cutting the corset strings," or at least in loosening the dress. The sooner, indeed, the clothing is removed the better, because the air, by its tonic effect, tends to take off the spasm. No matter how cold it is, the doors and windows should be thrown open for a time. It will be soon enough to go for "comforts" after the fit is cured. If it seems necessary, the hands and arms should be confined. If the patient can be made to swallow, the sooner she gets a good dose of cold water the better. If it is at all practicable, she should at once be placed into the shallow-bath, or, what answers very well, a good-sized wash-tub, the feet being left outside, if the tub is not very large. If the patient is quite feeble, the water may be moderated a little at first, but afterward it is to be used cold. In the water she is to be rubbed with as many wet hands as can be brought to bear upon her body, limbs, hands and every part. The cramps are sometimes very severe in these cases, so that it is really a pitiable sight to see how the poor creature suffers. But there is need of courage, and the operators may be assured that the more they persevere with the wet-hand friction, the less the patient will suffer in the end, and the sooner the cure will be effected. After the spasms become quelled, the patient should be placed in the

folded wet-sheet. This may appear uncomfortable to her at first ; but, with the most mathematical certainty, it will *soothe* her system, and that too in a remarkable degree, if everything is managed as it should be. There is no objection either, after the spasms are off, to her being made comfortable, and having warm bricks to her feet—but in no case *hot*. She will have a hundred times more to fear from heat than cold in an attack of this kind.

One of the best means of producing a powerfully sedative and anti-spasmodic effect in these cases, is to pour cold water freely upon the head. There is no case on record in which the cooling measures have done harm. Dr. Smee, a celebrated surgeon of London, who recommends this practice, says that he once saw cold water applied in this way for three hours, and the patient was quite well the next day. The water should not be poured from a height, as some would have it ; passive cooling only is what is needed, as a local application, in all affections of the head. A wash-tub, instead of a bowl, should be used to receive the water, and we may use the same over and over again, if desirable ; but it should not be allowed to get too warm.

In some cases the shallow-bath and the wash-tub can not be used ; either they are not at hand, or the patient may be so unmanageable that she cannot be operated on in this way. We have, then, other and valuable resources—for hydropathy is not a *one* remedy, as ignorant objectors have so often said. We have many and varied applications, and no two of them have precisely the same effects. But any one who understands the symptoms thoroughly, will never be at a loss as to what to do ; he will be certain of doing at least some good, and no harm, which cannot be said of drugs. In these supposed cases, then, the patient can be laid upon a bed,

couch, cot, or the floor, even upon a blanket, or something of that sort, while at the same time she is powerfully rubbed with rubbing wet-sheets; these should be changed often, so as to keep the water as fresh as may be. Even wet-hand rubbing, wet-towel rubbing, and the like, are very good substitutes for the shallow-bath.

Another important measure in these cases should be particularly mentioned, to wit: *clysters of cold water*; these may be used freely, without stint. Ice-cold clothes, placed upon the abdomen and genitals, are also highly valuable. These things are mentioned for the encouragement of those who may not be able to have the better and more powerful means before explained.

If we consult medical authorities on hysteria, we shall find that it would be almost impossible to use cold water amiss in these desperate cases, so great has been the success attending it.

INSANITY.

With reference to the use of water, in the cure of insanity, some facts of experience will prove instructive to the reader.

Dr. Currie our favorite author on the subject of water, gives a case in which the results of the method of employing it were highly satisfactory. The case was that of a man of very irregular habits of life, who was admitted into the asylum at Liverpool in a state of furious insanity. His disease was supposed to have been brought on by excessive drinking. It was necessary to use very powerful means of coercion, and the most powerful medicines, opiates, cathartics, emetics, etc., were given. Dr. Currie commenced the case June 2d, 1796, and went on to the 21st of July, at which time he tells

us that "perplexed with these extremes (the patient getting alternately better and worse, and bearing in mind the success of the cold-bath in convulsive diseases), I ordered it to be tried on the present occasion. The insanity returning with great violence on the 21st, he was thrown headlong into the cold-bath. He came out calm and nearly rational, and this interval of reason continued for twenty-four hours. The same practice was directed to be repeated as often as the state of insanity occurred." On the 23d the patient was again thrown into the cold-bath in the height of his fury as before. As he came out he was thrown in again, and this was repeated five different times, till he could not leave the bath without assistance. He became perfectly calm and rational in the bath. "This patient," continues Dr. Currie, "continued with us sometime afterward, bathing every other day, and taking the oxide of zinc in small quantities. He never relapsed, and was discharged sometime afterward in perfect health of body and mind."

Dr. Dunglison, in speaking of the cold douche as one of the very best tranquilizers that can be employed in cases of furious insanity, maintains that a column of water the size of the arm, or even much less, made to fall from a height on the head of the furious maniac, will almost always tame him. One of the most frantic cases that had ever fallen under his care was tranquilized by the column proceeding from the spout of an ordinary teapot, made to fall upon the head from the elevation of a few feet.

The cold dash, administered by pouring water on the head of the patient from some height, was used by Esquirol with entire success. The patient, a girl afflicted with mania, and of a nervous temperament, was placed—with a garment covering her—in a common wash-tub, and water was poured in small quantities on her head

till it covered her body, and shivering ensued. On a second application of this method, which was for some time resisted, it was followed by a deep sleep, accompanied by copious sweating; and when the patient awoke she was found to have recovered her senses.

In the physico-medical treatment of the insane, we should proceed on the same general principles as in any other case of bodily derangement. We are to use the rubbing wet-sheet, the wet-pack, the shallow-bath, the affusion, the plunge, the wet-girdle, clysters, and, in short, the whole routine of the treatment, *according to the nature of the case*. This, I need hardly add, needs knowledge, skill, experience and good judgment in those who are to direct the treatment. In no department of the medical art are these more necessary than in this.

DELIRIUM TREMENS.

The great thing in treating delirium tremens is to cool sufficiently the whole mass of the circulation; to do this we can hardly go amiss in the use of cold water, applying both externally and internally, in the most profuse manner, although we should not apply the douche or allow water from a height. Water will make the patient sleep when nothing else will.

DRUNKEN FIT.

Treatment—In no respect is the curative power of water more striking than in its effects upon a drunken person. The great thing is to pour plenty of cold water upon the head, till the patient “comes to.” The dripping wet-sheet, shallow-bath, and all other means of

cooling are also useful. If we can vomit the patient plentifully with tepid or warm water, so much the better. Cold injections, in the fit especially, are very useful. Treated in this way, much of the headache, nausea, feverishness, etc., that follow a debauch, are thrown off.

Sailors understand well the proper method of bringing a drunken man to his senses. If one of their number becomes intoxicated, they tie a rope about him and throw him overboard into the sea. The shock quickly arouses his senses, and the submersion serves to remove the fever.

FAINTING-FIT.

Sprinkle a little cold water in the face, give a little to drink, and wait patiently for Nature to take care of herself.

NIGHTMARE.

The treatment for this affliction should be similar to that which we would adopt in night-pollution, sleep-walking, sleep-talking, etc., and which need not here be commented upon. It is of great importance that the patient lie upon his side. Nervous people are often fond of lying upon the back; and it is in this position that the nightmare attacks.

SLEEPLESSNESS.

Every one knows that the excessive use of tea is very apt to bring on this affection. Coffee comes somewhat under the same condemnation, and tobacco is a frequent cause of the difficulty. The practice of being busy at

something useful habitually during the day is an excellent means of securing good and refreshing sleep at night. Above all, the sleepless patient should resolutely avoid napping during the day. It is also highly important that he should not get the hypochondriacal notion into his head, which so many have, that going without sleep is a dangerous symptom. Some have worried themselves well-nigh to death in this way. They should understand that worrying can never help them under such circumstances; and that if they will only observe the natural laws of health in any reasonable degree, nature will, with the utmost certainty in the end, and soon enough, bring them the desired sleep.

INFLAMMATIONS OF THE MOUTH.

The great thing in the management of these inflammations is, *the strictest cleanliness and attention to the general health*. All local applications are of little consequence, except for the purposes of cleanliness. Many of the drug-appliances that have been used in stomatitis are worse than useless, even for the time being. A good course of water-treatment by wet-packs, ablutions, the wet-girdle, clysters, pure soft water and proper air, exercise and diet—these are the most appropriate and effectual means.

TONSILITIS.

Gargles are used with advantage in this disease, but there is nothing in the form of a wash that will be found better than pure, soft water. It will afford the patient great relief if he will often gargle his throat with tepid water, by the half-hour at a time. In this way a great

deal of tough phlegm will be removed from the throat and the soreness will be relieved in a corresponding degree. Washing and rubbing the throat and chest externally, with the hand wet in cold water, will also be found a good remedy. This may, with advantage, be repeated many times daily.

LOSS OF APPETITE.

Treatment—One of the best evidences of the value of water-treatment is its power to restore a lost appetite. The reason why the hydropathic processes act in this way is, that they promote a rapid change of matter in the system, and at the same time a tonic or invigorating effect. Water-patients uniformly get a good appetite in a short time after commencing the treatment. Exercise is also valuable.

INFLAMMATION OF THE STOMACH.

Treatment—This should be similar to that for any other internal inflammation. The stomach also should be thoroughly cleared of its contents as soon as possible. The vomiting is to be kept down by the sedative effect of cold water generally; the more the fever is kept in check the less of this symptom there will be. Relapses in this disease are common from errors in diet.

DYSPEPSIA.

In the first place, the dyspeptic should take as much exercise in the open air, regularly and daily, as he can

bear without absolute exhaustion. He should become *fatigued* but not *exhausted*.

In the second place he should go to rest early, and at the same hour every night. He should also rise early in morning, and observe the same regularity as to time. If he should not happen to sleep well every night, he should yet observe these rules strictly. His bed and pillow should be hard rather than otherwise, his sleeping-room as airy as may be, and he should use the least possible amount of clothing consistent with comfort. It is always better to sleep too cold than too warm, even in consumption itself.

A most important rule is, that the dyspeptic eat precisely at the same hour each day. If he is unavoidably thrown out of his time, he should drink some water and wait till the next regular meal. The utmost regularity in the times of eating is of the greatest importance to one who is suffering in this way.

The most important rule of all regarding aliment is that which relates to quantity. First, quantity, and second, quality, both of which are of great consequence in their place. The *rule of all rules* is, not to over-eat. If THE DYSPEPTIC WILL BUT PERSEVERE IN TAKING THAT AMOUNT, AND THAT AMOUNT ONLY, HOWEVER SMALL IT MAY BE, WHICH HIS STOMACH CAN RECEIVE AND DIGEST COMFORTABLY, HE WILL SOON FIND HIMSELF ON THE HIGH-ROAD TO HEALTH; and it will surprise any one to find on how small an amount of nutriment—wheat-meal bread, for example—he can subsist and grow better. I repeat, then, THE DYSPEPTIC SHOULD NEVER OPPRESS HIS STOMACH WITH FOOD. If he can take only an ounce, or the fourth part of that amount, let it be so. If he will persevere IN NOT OPPRESSING HIMSELF, he will soon grow better and be able to take more. Flesh, he should remember, is no sort of criterion for health.

I lay down this important rule, however, that the dys-

peptic should take the most healthy articles for a healthy stomach. BUT BE SURE TO REGULATE THE QUANTITY ACCORDINGLY AS THE STOMACH CAN BEAR.

As regards water-treatment proper, everthing that is calculated to promote the tone and vigor of the constitution is a help in dyspepsia. The whole force of the treatment is brought to bear advantageously in many cases. The timid are particularly advised to try the free use of the rubbing wet-sheet.

SEA-SICKNESS.

I say to all, drink water freely from the first when you are sea-sick. Both man and animals can live more than twice as long with water as they can without it. Besides, it makes the vomiting easier. After one has had a little experience, he can tell well enough when the trouble is coming. If, then, when the *qualmishness* begins to affect him, he drinks two, three or more tumblerfuls of water—and blood-warm is best, though cold is useful—till he vomits, the effort is not only rendered much easier, but greater relief is obtained, and in a shorter time. The periods between vomiting will also be thus lengthened.

This water vomiting, then, I recommend as a great help in sea-sickness. To treat vomiting *by vomiting*, might seem paradoxical; but of the good effects of the practice I can testify, not only from my own experience, but that of many others for whom I have prescribed.

The rubbing wet-sheet, and all hydropathic appliances which tend to bring the blood to the surface, will not only be found useful in warding off sea-sickness, but also in supporting the strength.

The wet-girdle is an excellent remedy in this affection. In some cases it wards it off entirely, and in others it serves

as an efficient palliative. PRIESSNITZ showed his rare shrewdness and knowledge of the laws that govern the human system, when he advised, as a remedy for sea-sickness, *that a heavy wet-girdle, tightly applied, be worn constantly, and re-wet often, without removing it.* Sailors know by experience that a girdle, even though dry, is useful; and we know, also, that a *wet* one is still better. In the convalescence from sea-sickness this remedy is particularly valuable.

COLIC.

The treatment of a fit of common colic is in general simple, and the cure easily effected. The great thing is to clear the stomach and bowels as soon as may be of their morbid contents. One or two full injections of warm or tepid water will often suffice. But in some cases it is necessary to persevere, as we say, long and hard. Gallons upon gallons of water are given, both at the mouth to cause vomiting, and the bowels to clear them of their contents. We use also cold sitting-baths, prolonged as much as may be found necessary, with a good deal of rubbing the bowels with the wet hand. Going at once into a cold-bath is a valuable thing in some cases, and no one will get harm from cold water while the pain is upon him. Warm-baths may also be used in alternation with cold; while the cold sitting-bath is taken, the feet may be placed in warm water, and the same may be done after any of the cold applications. It does no good to keep the feet very chilly in such cases. We should persevere with the several methods, one or more of them, accordingly as we may, till relief is obtained.

WORMS.

The case should be managed like one of dyspepsia. The strictest attention must be paid to the diet. The wet-girdle should be worn constantly, night and day, if the weather is not too hot. Sitting-baths, shallow-baths, and, in short, every thing that can be made to act favorably upon the system generally, is useful. Cold clysters are valuable; and if the worms should happen to lie within reach of the water, that is, in the rectum or colon, which is sometimes the case, the effects, if repeated two or three times daily, will be most excellent. Drinking freely of pure, soft water, when the stomach is empty, will also be a valuable means of helping to dislodge the animals from the beds of mucus in the abdomen.

INFLAMMATION OF THE BOWELS.

The disease is to be treated on the general principles of all severe inflammations. Keep down the fever, especially in the bowels; use half-baths or hip-baths, of temperature suited to the strength; wet-sheets and compresses also come well in play; give injections—almost blood-warm, again and again—if need be, fifty times in a day; keep the bowels completely ‘soaked;’ give no food till the disease is quelled, and then begin with half-a-teaspoonful portion; if this does well, double or treble the quantity the next time; but be very careful, or trouble will come from the food.

INFLAMMATION OF THE LIVER.

Treatment—Acute hepatitis is to be treated actively like any other inflammation of an important organ. By

wet-sheet packs, shallow-baths, sitting-bath, compresses, etc., the pain and inflammation should be combated in the most vigorous manner. We should never cease or be satisfied till all pain and fever are completely checked. The abdomen is to be kept cool, and the feet warm. With this injunction it would be quite impossible for any one to do harm with cold water in this disease, so long as the pain and fever are not fully quelled.

BILIOUS ATTACK.

Let the patient drink water—pure and soft, if he can get such—in considerable quantities; six, eight, ten, or more tumblerfuls in a day. This process will purify his system sooner, better, and far more effectually and safely than any or all the drugs, nauseous or otherwise, that human art can combine. And if he can add to this process a few packs, clysters, sitting-baths, half-baths, rubbing-sheets, head-baths—as many, in short, per diem, as the symptoms may demand, in connection with moderate exercise in the open air, he will be made a new man of soon enough.

JAUNDICE.

In all cases it is to be remarked the wet-sheet pack is a most valuable *poultice*; nothing will correct the skin at all like it. Wet-sheet rubbing, shallow-baths, clysters and in short, the whole of the hydropathic enginery, which is so admirably calculated to *purify* and invigorate the system, can be brought to bear in this disease.

CHOLERA.

The dripping-sheet, with the brisk rubbing upon its surface, is, as I have before said, a powerful means of

relieving spasms, arising from whatever cause. The dry-rubbing, which is not a tenth part as good as the wet, was found in Paris sufficient to render calm and quiet the poor sufferers, when the terrible spasms were upon them. The water-drinking and vomiting in nausea cleanses the stomach, produces a tonic effect upon its internal surface and thus forestalls the vomiting in cholera. It helps, moreover, to cleanse the bowels and prevent the diarrhea. The deep, cold hip-bath (for it is such that Priessnitz uses) has a very powerful effect in constricting the opening capillaries of the mucous membrane of the stomach and alimentary canal generally, and in arresting the vomiting and discharges from the bowels. Each and all of these applications, if energetically persevered in, tend most powerfully to keep down the inordinate burning and thirst.

DYSENTERY.

If I were to give in a few words the great golden rule, as I may say, for treating dysentery, as well as cholera-morbus and bowel-complaints generally, it would be, KEEP THE BOWELS COOL, THE HEAD COOL AND THE EXTREMITIES WARM. If all this were done faithfully in all cases FROM THE FIRST, few, very few, would ever die of such attacks. But all of this implies good judgment, skill and perseverance. In dysentery, for example, a sleepy parent allows the disease to progress for half or the whole of a sultry night, and in the morning it is too late. The fatal work is done. I repeat, such attacks must be taken AT THE VERY FIRST.

The *cold hip-bath* is an invaluable remedy in this complaint. If there is in the whole range of human diseases one instance wherein a remedial agent can be

made to act in a manner most agreeably efficacious in subduing pain, it is the cold sitting-bath here. In the tormina and tenesmus of dysentery, a child may be writhing in agony a great portion of the time; opiates and injections and all other remedies fail in bringing relief; we sit or hold this child in a tub of cold water and directly the pain ceases. We use the remedy sufficiently often, the water being of proper temperature, and we are certain of securing our object, so far as the relieving of pain is concerned. Whether the patient can LIVE, is another question; but if death, even, must be the result in any given case, it is certainly very desirable that we make this death as easy as may be. This every *parent* can well appreciate.

Let this bath be used thus: a common wooden tub is sufficient, the size being suited somewhat to the patient's age. It is better to elevate the back of the tub a few inches by placing under it a brick or a block of wood. If the tub is of pretty good depth, all the better, as we wish to have the water come as high upon the abdomen as may be; but if the tub is shallow, the water can be poured higher upon the body by means of a cup; or a sponge or towel dipped frequently in water may be used. MAKE THOROUGH WORK IN COOLING THE BOWELS AND THEN THE PAIN WILL CEASE. If it is a young, feeble child, let two persons hold it, one to support the head and upper part of the body, the other, the feet outside of the tub. I would not object, in some cases, to having the feet in warm water at the same time. I am not certain but this would be good in all cases. I should not, at any rate, be afraid of it, if the water were not used hot. The feet also may be rubbed with the dry, warm hand, or warm cloths; or other moderately warm applications may be made.

If there be great soreness of the anus, or external

opening of the lower bowel, a heavy, wet compress should be placed upon the part. We wet a heavy diaper and apply it as for a young infant. This may be double or treble, according to the necessity of the case. This accomplishes much in relieving and preventing the soreness alluded to—the excruciating torture so often attending the disease.

I would give the child all the liquid he desires. I would even encourage him to take more rather than less; and the best liquid of all, for this purpose, doubtless, is pure soft water—the purer and softer the better. People may everywhere have pure soft water if they will only be at the expense (which is, on the whole, a moderate one) of catching the water as it comes from the clouds. But use even hard water, rather than any other drink. Boiling the water, if it is hard, improves it somewhat.

STRICTURE.

Water, if persevered in, is even more effectual than drug enemata; it leaves the bowels in a much better state and much less liable to future constipation. If there are concretions within reach in the lower bowel, they can sometimes be scooped out at once with the finger or a spoon-handle. Clysters of pure water, often repeated, aid the bowels in throwing off masses of this kind. In intussusception it is a sorry method to drug the stomach with cathartics, for by their action downward they tend inevitably to make the evil worse. Using very largely of clysters and at the same time very cold applications to the surface to stimulate the movements of the bowels, will no doubt cure this formidable difficulty in some cases. The same also in twisting of the intestines.

CONSTIPATION.

As local applications, in this condition, the sitting-bath and wet-girdle, worn night and day, or nights only, if it is not practicable by day, are invaluable means. It is of great importance to attend well to the condition of the skin. The mucous membrane of the bowels has great sympathy with the condition of the skin. To maintain this in a healthy, vigorous state, the rubbing wet-sheet, the towel-bath and the daily shower, where this is well borne, are valuable remedies. The bathing should be followed daily and semi or tri-daily, should there be need in the case.

FLATULENCE.

Treatment—The great thing is to remove the cause or causes of the disorder as far as they may be known. The case should be managed in all respects like one of dyspepsia. Clysters, sitting-baths and the wet-girdle, are highly serviceable. If the patient can avail himself of the advantages of a thorough hydropathic course at an establishment, so much the better.

PILES.

If the piles become strangulated—that is, if the bowel cannot be returned into the rectum—a cold hip-bath should be taken, so that the tumor may be reduced. Cold compresses are also useful.

“Half a pint of cold water,” says Dr. Guy, “injected into the rectum twice or thrice a day, and retained as long as possible, is a most effectual remedy.”

FALLING OF THE BOWEL.

A tepid sitting-bath, long continued, would in such a case prove highly beneficial; it would not only be a means of relieving pains and soreness, but would bring down the inflammation and size of the protrusion, and thus facilitate its return to its normal position.

One of the best possible means for preventing the pain—and this is very excruciating at times—is to envelop the patient in the wet-sheet. It may be used in the half or folded form, or the entire envelopment may be had recourse to. Its action, in such cases, is that of a great and soothing poultice, the good effects of which can be appreciated best by those who have experienced its salutary effects.

I should remark, that the abdominal wet girdle should be worn constantly, night and day, in all these cases, until a cure is effected. It is an invaluable means of promoting the vigor of the stomach and bowels, and is thus an excellent auxiliary in the treatment.

COUGH.

Treatment—The Cough—One of the best palliative means for cough, when consumption has not proceeded to a great extent, is to make the body naked, and wash the surface with pure water, especially the throat and chest. Even washing the feet will often relieve a troublesome cough.

The *difficulty of breathing*, which often attends lung-complaints, may be greatly modified and relieved by the washings and wet-hand frictions, such as I have recommended for cough.

The power of water to promote the strength of the living tissue is nowhere more strikingly exemplified than in the treatment of hectic night-sweats. With every thing besides well managed, it would seem that these debilitating night-sweats can be effectually checked, to the very last. Often have I known persons who have sweltered for weeks and months nightly with perspiration, in whom it was checked altogether by the simple effect of cold water, and wet frictions upon the surface. Nor would I have the water applied very cold; only of such temperature as the patient can bear, that is, can get comfortably warm after. In proportion as these night-sweats are checked by water is the strength supported, the health made more comfortable in every respect, and, to all appearances, life materially prolonged. These washings may be practiced two or three times daily, with the view of invigorating the surface. Pure fresh water—the purer and softer the better—should be used.

As a palliative means to be used in the fatal diarrhea which occurs towards the last of consumption, pretty copious injections of lukewarm or tepid water into the bowels, will be found a most excellent means. It serves to soothe the patient, and at the same time supports his strength. Have a good instrument, and resort to the internal rinsing at every time when the bowels act unnaturally. Use it either just before, or after, or both. Be the diarrhea of whatever kind, this is a most excellent remedy.

There is no magic, I will remark, as to the particular form of bathing. Any good ablution—the dripping-sheet, as it is called in our hydropatic works, the affusion of water, the washing of the body in a wash-tub, or merely by wet towels and the wet hand—all of these are good modes. The shower-bath, it is to be remarked, is

one of the most severe of all; hence great care should be exercised in its use.

INFLAMMATION OF THE LUNGS.

According to the symptoms, we use the wet-sheet pack, folded wet-sheet, wet compresses, shallow-baths and rubbing wet-sheets. Water should also be drunk freely, little and often, even if there is no thirst; but we need not over-chill the system, so that the water may be taken tepid or even warm. When the blood internally is in such a fret and fever, as we may say, it is of great service to dilute it; this is the reason why we direct so much to be taken. Clysters, too, are useful in the same way.

LARYNGITIS.

Locally frequent garglings with tepid, or even warm water will be useful. The throat and chest should at the same time be often washed and rubbed with the hand wet in cold water. The *stimulating* compress is also useful about the throat.

ASTHMA.

In treating the asthmatic fit, the wet-sheet, well wrung and faithfully applied, is the great thing. Repeat it two, three, or twenty times in succession, as the case may need. There is no danger of doing harm, or of giving the patient a cold, so long as the nervous excitement is upon him and the difficulty of breathing continues. If the sheet can not be had, a good washing with towels,

the water always cold, is very useful. With the cooling means in any way we can hardly go amiss with water, but the wet-sheet is the great thing in reducing spasms of whatever kind. The wet-jacket or chest-wrapper, or wet towels about the chest, are all useful, if the weather is not too hot. When that is the case, we must depend upon the washings simply.

HOOPING-COUGH.

The water-treatment, properly managed, it is beginning to be understood at this late day, is the best, safest and most effectual means possible for reducing general feverishness, of whatever kind. As to what amount is to be given, the nature of the case should determine. One patient may need few baths in a day, another many; and, in all cases, enough of the water-processes should be followed out to keep the general fever constantly in check.

CROUP.

If we wash and rub the chest with the hand wet in cold water, and put upon it a wet bandage—methods that are always salutary for a cough—we do good, although the attack may not prove to be one of croup.

In a violent attack of croup we could hardly do too much until it is subdued. Sometimes it may be necessary to bathe the child every hour, or even oftener. At all events, we should give baths enough, change the bandages often enough, and wash and rub the chest sufficiently to keep the breathing good and the croup in check.

Tepid and cold affusion—tepid if the child is weak,

but cold if the contrary—with wet-hand friction upon the throat and chest, with the constant use of wet bandages upon these parts, constitute the sum and substance of the best of all known methods of treating this disease.

SMALL-POX.

We are, then, to treat small-pox on the same general principle as all severe inflammations, namely, *to keep the fever in check from the beginning to the end of the disease*. As to how much water-drinking, how many baths, wet-sheets, compresses and bandages, and what the temperature of the water, all this must vary according to the nature, severity, and other circumstances connected with the case. No other treatment can at all compare with this for comfort, in so desperate a disorder.

MEASLES.

Treatment—First, we are to keep down the general fever, as in all inflammatory diseases. In accomplishing this we do not send the eruption *in*, but aid nature in bringing it *out*. A single tepid-bath, a pack, or a cold bath, if the patient is not very weak, will often bring the rash upon the surface as by magic, while all the other symptoms are relieved in a remarkable manner. We use, then, the wet-pack, and tepid or cold ablutions—each one or all of these, as may be convenient, or as the case may require.

SCARLET FEVER.

The disease has been cut short by taking the patient out of bed and pouring cold water upon him. The heat

of the body is so great in this disease, that no danger is to be apprehended from the cold affusion. It is true, there are cases where the patient is more or less chilly; but if, in this affection, the general rule I laid down in the case of common fever be followed, there is no danger whatever, but the greatest advantage, in taking the patient out of bed (however hot he may be), and pouring cold water upon him.

NETTLE-RASH.

Nettle rash is to be treated actively, according to the symptoms. The tepid and warm baths are valuable, so also the wet-pack.

ERYSIPELAS.

The great thing is, *to keep down the general fever*. Do this *from first to last, both night and day*, and all goes on well. The local applications (wet cloths), *repeated often and suited to the patient's comfort*, are also useful. Be especially careful to keep the head cool; pour water upon it as much and as often as necessary, and use wet towels; *keep the feet warm*. Water drinking, clysters and spare diet when the appetite comes, are also to be thought of. Bathe the patient as often during the night as may be necessary to give him sleep. No disease requires a more prompt treatment than bad erysipelas. So that the feet are kept warm, it is quite impossible to do too much. Allow of no remedy other than water.

WARTS.

Warts often disappear while the patient is undergoing a course of water treatment. This happens in conse-

quence of the purifying and stimulating effects of a hydropathic course. Wearing stimulating wet bandages upon warts, and washing the parts often with cold water, will not unfrequently drive them off, even when other means have failed. Paring them, as a preparatory measure, is useful.

CORNS.

It is an instructive fact in regard to corns, as also warts, bunions, etc., that a course of water-treatment generally removes them wholly, or prevents all pain. Those who bathe habitually in cold water are seldom troubled with corns.

CHAFING.

In all cases perfect cleanliness—the most strict and constant—is the great thing. In the case of infants use a soft sponge and the purest, softest water that can be obtained. It is not necessary that it be very cold; it may, indeed, be used quite lukewarm, *but never hot*. To secure the most perfect cleanliness, use a little mild, unscented soap now and then, if necessary. Use the sponge and water three, four or more times each day.

CHAPPING.

I know of no means so good for chaps as the water-dressing, suited to the feelings of comfort. Nights especially this remedy may be advantageously used. If we can but manage it rightly, it will cure in a shorter time than any other application we can make.

CELLULAR DROPSY.

As a general thing, the water used should be cold, but the applications should not be so long continued as to over-chill the system. A good share of friction is advisable on the ground of stimulating the excretory organs generally. The rubbing wet-sheet, well wrung and followed by a thorough rubbing over the dry sheet, is a valuable remedy. The skin should be preserved as much as may be, and hence it is better that the friction (which should be often and freely made) should be with the wet hand or over the sheet. Moderate showering and douching are also valuable aids in case the debility is not so great as to preclude the employment of these remedies.

DROPSY OF THE HEAD.

It is a most important consideration to commence the treatment as early as possible in these cases; and the general management should be the same as for cellular dropsy. Washing the head often with cold water and the pouring head-bath are useful in connection with the general treatment.

GOUT.

The wet-pack, prolonged shallow-baths and wet bandages are the means to be used. The practice should be continued as many hours or days in succession as may be necessary to quell the pain. It is far better to use cold, tepid and warm baths alternately; the wet-pack,

frictions, bandages, etc., constantly ; that is, to live in water than to endure the pain. Nor does water act by repelling the morbid matters from the surface, but by drawing them out.

SCROFULA.

The general treatment should be tonic and purifying, that, in short, which is best calculated to restore and preserve the general health. All of the hydropathic appliances come into play, according to the strength and power of endurance in the case.

The management of local parts is also to be conducted on general principles. In swellings we are to proceed according to the degree of heat. The same also is true of ulcers and the like. In general the stimulating compresses are the most appropriate, because the disease is seldom attended with high vascular excitement.

BOILS.

The water-dressing, that is, applications of wet linen, frequently renewed, and kept at a temperature which is most agreeable to the feelings, is, beyond doubt, the best local remedy we have for boils.

General ablutions in water, tepid or cold, according to the season of the year and the patient's strength, will be found highly serviceable. The wet-sheet pack is also an invaluable means. It will surprise any one who is not acquainted with matters of this kind, to witness the salutary effects of these general applications upon the affected parts. A tepid bath simply will often relieve pain and irritation to a degree which no one who had not witnessed it could believe.

FELON.

We believe keeping it constantly immersed in ice-cold water would form the most effectual means of arresting the inflammation and preventing its rising to a head; and that this mode is certain to subdue the pain most effectually, every one who has the opportunity may test for himself. This is an affection in which we have a perfect demonstration of the great power of cold water to quell pain. Severe as it may be, we immerse the part in very cold water, when all at once the pain grows less and soon dies away. Keep it thus immersed, taking care to have the water very cold, and the pain does not return.

EARACHE.

We use head-baths, wet-sheets, general baths, wet-compresses—in short, the soothing, sedative and febrifuge-treatment generally, according to the severity and persistency of the case. The extremities are to be kept warm; the warm foot-bath is useful now and then. So also the general warm and the vapor bath.

INFLAMMATION OF THE KIDNEYS.

Treatment, from the very beginning, should be of the most active kind. The great object is to subdue the fever and quell the pain. Cooling wet-packs, often repeated, cold sitting-baths, rubbing the whole back much with the hands wet in the coldest water, and with ice, are the means. The pain should, as far as possible, be kept subdued. The extremities should, for the most part, be kept warm.

The warm or vapor-bath, alternating now and then with the cold treatment, is useful. But the great reliance is to be placed upon cold. Pure, soft water to be drunk frequently.

GRAVEL.

The matter of the body should be changed as rapidly as possible for that which is pure and healthy, by the use of wet-packs, rubbing wet-sheets, sitting-bath, etc.

STONE-GRAVEL.

The wet-sheet pack, cold sitting-baths, the shallow-bath, rubbing the back with pieces of ice, frequent clysters to the bowels, etc.—all this will have a tendency not only to relieve the pain, but to stimulate the parts to expel the offending matters through the urinary channels.

The free use of pure, soft water and fruits, as a part of the regular meals, will be serviceable in preventing an increase in the size of the calculus, and the painful symptoms attending it. The warm-bath, as a palliative, is to be resorted to occasionally.

GONORRHEA AND GLEET.

Local wet compresses to the parts should be used unremittingly; the wet-sheet pack should, if possible, be used often: the diet should be strictly vegetable, and the whole management, both as regards the primary and the secondary symptoms, should be such as is best calculated to purify and invigorate the body generally. The hunger-cure is nowhere more applicable.

Gleet is to be managed on general principles; the

system is to be purified and invigorated by baths, diet, etc., and the private member is to be kept constantly swathed in wet cloths.

WET-COMPRESSES.

A cold-compress consists of two or three folds of soft linen or cotton wrung out of cold water, applied to the affected part, and covered by a piece of oil-silk, gutta-percha foil, or India-rubber cloth, which should project a little beyond the wet cloth on all sides, so as to prevent evaporation from the linen. In parts subject to considerable motion, as the throat and neck, the edges of the oil-silk should be folded in over the wet linen so as to prevent its exposure to the air. For persons with feeble reaction, the compress may be held for a minute in front of a fire before applying it.

Compresses are generally best applied at night, as it is often impossible to keep them in *close apposition* while moving about. After removing them in the morning, the parts should be sponged with cold water to restore the tone of the skin.

Abdominal-compress—This consists of two or three thicknesses of linen, from about six to nine inches wide and long enough to go round the whole body, or the linen may only cover the front part of the abdomen, or even only the seat of uneasiness; this should be wrung out of cold water, covered with oil-silk, and secured by a flannel or linen bandage with strings. This may be worn several nights in succession, the parts being well sponged with cold water, and rubbed with a coarse towel on removing it in the morning. The abdominal-compress is very valuable in typhoid-fever; it tends to control diarrhea, checks the spread of ulceration, and so lessens the danger

of perforation, or opening in the bowel. In constipation it is often a most useful adjunct, and in diarrhea it relieves irritation and facilitates the cure.

Compress for the throat—A piece of linen or flannel should be wrung out of cold water, and wrapped in two or three thicknesses around the throat; this should be covered with oil-silk, and, over all, two or three thicknesses of flannel to maintain the warmth. When this is applied the patient should retire to bed, and he will generally have the satisfaction of finding his throat-difficulty much relieved by the morning.

Chest-compresses—In bronchitis and other inflammatory affections of the lungs or pleura, the use of wet compresses, after or before poultices, greatly aids the action of the medicines. Compresses adapted for the chest and other parts may be obtained from most Homœopathic chemists.

Sores, ulcers and tumors are often benefited by compresses. In local forms of rheumatism, as lumbago, some inflammatory affections of the knees, ankles and other joints, and in sprains and other injuries they hasten the cure.

The appearance of a rash or eruption of pimples after the continued use of the compress is regarded as favorable. If the rash be very troublesome, the compress may be discontinued and glycerine and Cologne-water, in equal parts, smeared over the eruption.

Spinal hot-water and ice-bags—In many female derangements, Chapman's spinal-bags are of great utility when judiciously used. The ice-bag requires greater caution than the hot-water bag, especially during pregnancy.

SPIRIT-VAPOR BATH.

This bath is very powerful in beneficent effects upon the whole system, and contributes not a little towards the removal of disease. It is one of the best methods of inducing activity of the vessels of the skin, and was first introduced to the medical profession more than twenty years ago, we believe, by the accomplished Prof. King; since which time, especially, it has been very extensively used as a remedial agent. One of the many advantages of producing perspiration in this way is, that it is unattended by the injurious effects which too often follow the administration of a sweat-producing medicine.

The method of giving this bath is as follows: The patient is to be in a night-shirt or other clothing, to be worn only while sweating and during the night, if the bath is taken at bed-time. He is then seated on a high, wood-bottomed chair, or any other, provided care is taken that the bottom is so covered that the flame will not burn him. Then a large blanket is thrown around him from behind, covering the back of his head and body as well as the chair, and another passed around him in front, pinned so loosely at the neck that he can put it on or off his face as occasion may require during the bath. The blankets must join each other at the sides and reach the floor, so as to prevent the vapor from passing off. Then a saucer containing two tablespoonfuls of whisky, or any other spirit that will burn, is placed upon the floor directly under the center of the chair, and lighted by introducing from behind a piece of burning paper. The liquor is allowed to burn until consumed, and the operation repeated one or more times if the patient does not already sweat freely enough, which he will probably do in from five to ten minutes.

If during the operation he feels faint or thirsty, cold water must be sprinkled in his face; he may drink one or two swallows, or even have his head bathed with it.

Then, when free perspiration is produced, wrap the blankets around him, put him in bed, cover him warmly and give him hot teas to drink. After two or three hours remove the covering piece by piece, at intervals of about half an hour, so that he may gradually cease to perspire.

Ordinary precautions will prevent his taking cold, and he may go to business the next day.

This mode of producing perspiration is highly recommended in severe colds, pleurisy, rheumatism, diarrhea, dysentery, feverish and inflammatory attacks, etc. In acute diseases it may be practiced once a day; in chronic, once or twice a week, according to indications of its necessity.

DIVISION SEVENTH.

HOMŒOPATHIC TREATMENT.

SPECIFIC PRESCRIPTIONS.

We have frequently heard people complain that the books on this subject, which they obtained for the use of their families, were impractical.

But we apprehend that they will find in the following pages a practical treatise—so simplified that any person who can read may use and apply the remedies. And the two extremes that are so common in treatises of this kind are avoided; the one being so voluminous that the domestic prescriber is confused, and finds it impossible to decide between the merits of the different remedies; and the other, of abridging the subject until the information desired is neither clearly nor readily obtained.

INTRODUCTORY RULES AND DOSES.

1. For persons above the age of ten years, four drops of the tincture prescribed in four tablespoonfuls of pure water. Of this give a teaspoonful for a dose.

2. For those under ten, use one half the quantity named above, in the same amount of water.

3. The intervals between doses, as prescribed hereafter, must be lengthened as the patient improves.

4. The water used should be such as the patient is daily accustomed to as a beverage; and the vessel, as well as the spoon employed, must be perfectly clean. When the drops are put in the water, the mixture should be stirred briskly for five minutes, and then kept closely covered, and away from light and heat. A fresh preparation must be made as often as every twenty-four hours.

5. If the medicine is in the form of globules, give four to an adult and two to a child.

DIET.

Those undergoing Homœopathic treatment, should avoid high-seasoned food and all condiments except salt and sugar, and these should be used sparingly. All strong-scented or pungent vegetables, smoked meats, pastry and confectionery should be shunned.

The better articles for diet are gruel, made with water and oatmeal, rice, farina, barley or wheat-flour, seasoned with a little salt or sugar, or both. The patient should avoid all alcoholic and fermented drinks, tobacco and opium, unless he has been long addicted to their use; in which case they should be used very sparingly, and gradually discontinued as soon as possible.

The patient should drink pure water, gum-Arabic water, weak black tea, and slippery elm.

HOMŒOPATHIC GLOSSARY.

FULL NAMES.	Abbreviation.	COMMON NAMES.
Aconite, Aconitum Napellus.....	Acon.	Monk's Hood.
Arsenicum Album.....	Arsen.	Arsenic.
Apis Mellifica.....	Apis Mel.	Poison of the Honey-Bee.
Arnica Montana.....	Arn.	Leopard's Bane.
Bryonia Alba.....	Bry.	White Bryonia.
Belladonna.....	Bell.	Deadly Nightshade.
Calcarea Carbonia.....	Calc. Carb.	Carbonate of Lime.
Cannabis Sativa.....	Cann.	Hemp.
Camphor.....	Camph.	Tincture of Camphor.
Cantharides.....	Canth.	Spanish Fly.
Carbo Vegetabilis.....	Carbo Veg.	Charcoal.
Chamomilla.....	Cham.	Chamomile.
China Officinalis.....	China.	Peruvian Bark.
Cina.....	Cina.	Wormseed.
Cocculus Indicus.....	Cocce.	Fish-Berries.
Croton Tiglium.....	Crot. Tig.	Croton Oil.
Coffee Cruda.....	Coffee.	Coffee.
Colocynthis, Colocynth.....	Colo.	Bitter Cucumber.
Cuprum Metallicum.....	Cup. Met.	Copper.
Dulcemara.....	Dulc.	Bitter-Sweet.
Drosera.....	Dros.	Round-Leaved Sundew.
Gelsemium Sempervirens.....	Gel. Semp.	Yellow Jessamine.
Glonoine.....	Glon.	
Helleborus Niger.....	Hell. Nig.	Black Hellebore.
Hyoscinus Niger.....	Hyos.	Black Henbane.
Hepar Sulphuris.....	Hepar.	Sulphuret of Lime.
Ipecacuanha.....	Ipecac.	
Ignatia Amora.....	Ign.	St. Ignatius' Bean.
Lachesis.....	Lach.	{ Poison of the Lance- Headed Serpent.
Lycopodium.....	Lyc.	Wolf's Claw.
Mercurius Corosivus.....	Merc. Cor.	Corrosive sublimate.
Mercurius Vivus.....	Merc. Vir.	Mercury.
Mercurius Protiodo.....	Merc. Proto.	Protiside of Mercury.
Nux Vomica.....	Nux Vom.	Dog-Button.
Natrum Muraticum.....	Nat. Mur.	Common Salt.
Nitric Acidum.....	Nit. Ac.	Nitric Acid.
Opium.....	Opi.	Opium.
Phosphorus.....	Phos.	
Platina.....	Plat.	
Rhus Toxicodendron.....	Rhus Tox.	Poison Oak.
Rheum.....	Rheum.	Rheubarb.
Sabina.....	Sabina.	Savine.
Secale Cornutum.....	Sec. Cor.	Ergot of Rye.
Stannum.....	Stan.	Tin.
Spongia.....	Spong.	Burnt Sponge.
Silicea.....	Sil.	Silex.
Stramonium.....	Stram.	Thorn-Apple.
Sulphur.....	Sulph.	Sulphur.
Tartarus Emeticus.....	Tart. Em.	Tartar Emetic.
Veratrum Album.....	Ver. Alb.	White Hellebore.

ASTHMA.

Ipecac in ordinary cases of this disease is best, if there are dryness and great tightness in the air-vessels, especially if there is any nausea attending it. Give dose every hour.

Arsenicum is best when there is dropsy or remnants of chills and fever in the system or great excitement of the heart. Dose every hour.

Nux vomica, in cases when you have eaten some articles of food which are indigestible. Give every hour. Dose, as directed in "Introductory Rules." An eminent physician, in New York, prescribes the following :

Give *aconite* once in two hours, if the paroxysms have been caused by sudden changes in the weather or by getting cold ; and repeat the dose as long as there is any improvement ; then *ipecac* every two hours. If these remedies fail to relieve the paroxysms, give *arsenicum*, once in two hours. In nervous persons, or if it is caused by mental emotions, give *belladonna* every hour ; and should there be any fever, which is not relieved by this remedy, give *aconite* every hour, alternately with it.

Ipecac may be given if the above remedies fail, or *pulsatilla* if there is much expectoration or if the disease should occur immediately after suppression of the menses.

To prevent a return of the paroxysms and to effect a permanent cure of this disease, give *sulphur* and *nux vom.*, alternately, at intervals of forty-eight hours. If they fail or lose their effect, *pulsatilla* and *arsenicum* may follow and be given in the same manner.

APOPLEXY.

Opium should be given when there are stupor and insensibility, more or less complete heat in the head, coldness in the extremities and a snoring as in deep sleep. Dose every fifteen minutes.

Belladonna, when the *opium* has broken the stupor and the patient moans, as if conscious of pain or goes into convulsions; when there are heat in the head, injected, red appearance of the eyes and coldness of the extremities. Dose every ten minutes.

Glonoine—When two doses of *bell.* have given no apparent relief, this may be substituted for it. Dose every ten minutes.

Nuxvomica when the attack has been induced by eating or drinking improperly and there is derangement of the stomach and when there is rigidity of the limbs, with occasional jerking convulsions. Dose ever half-hour.

Hot water, applied to the head warm as can be borne, is one of the most important remedies for apoplexy. Application to be renewed every half-hour. Cold water applied to the feet and hands—the colder the better—is a very important measure and is best when the extremities are very cold, made with ice or snow-water, if it is to be had, succeeded by a very brisk rubbing with flannel. Application to be used at the time the hot water is put to the head.

INFLAMMATION OF THE BOWELS.

Symptoms of this disease are severe burning pains, great tenderness and sometimes fullness in the abdomen and the suffering increased by any movement.

Give *aconite* every half-hour, until four doses are

given; then give *belladonna*, if there are yet much fever, flushed face, headache and extreme soreness, with smooth, red tongue. Dose every hour.

Nux vomica is indicated after the aconite, if the tongue is coated yellow with red edges, and there are flatulency and intermitting pains, attended with constipation of the bowels. Give as above.

Colocynth, if there is great and frequent urging to stool, with small discharges. Dose as above.

Mercurius corosivus, after the *colo.* has been used without effect, especially if there are bilious or bloody stools. Dose every hour.

Croton tiglium is indicated in case of violent purging and severe griping. Dose as before. Apply a wet compress of hot water only in case of great external heat.

BOILS.

Arnica—Five drops in a teaspoonful of water may be applied by bathing or by a compress. Application every four hours.

Belladonna, when there are great heat and pain, and general disturbance of the system. Dose every three hours.

Hepar sulphur, when the boil begins to soften and the matter begins to collect. Dose every four hours.

Hot water should be applied just before the time for taking the medicine. A poultice of bread and water should be kept applied till the boil opens, then a compress of hot water till it is healed.

When boils are small, or located in places not very sensitive, no treatment by medicine is needed.

BRUISES.

Arnica tincture should be applied, prepared as follows: When the skin is not broken, one part to three of cold water; and when the skin is broken, one part to five of cold water. This application should be made with a compress of muslin or raw cotton, and be renewed every half hour. But if reaction has taken place before any application is made, and the injured parts are inflamed and swollen, cold water must not be used, but rather hot water, with the proportion of tincture named above.

Also give *arnica tincture* internally, once in three hours, as prepared in the "Introductory Rules."

ACUTE BRONCHITIS.

Aconite—This is the first and most important remedy in all cases attended by any febrile excitement or heat of the skin. Give a dose every hour, and continue it for twelve hours. If at the end of this period there is a violent, dry cough, or sensation of dryness in the chest, or twitching in the throat, which excites cough, give *belladonna*, and if fever continues give it alternately with *aconite*, one hour apart.

Bryonia—If *aconite*, or *aconite* and *belladonna* fail to cut short the disease at the end of two or three days, *bryonia* will generally be required, especially when there is a profuse, transparent, whitish or yellowish expectoration, dryness of the throat or a free perspiration. Give a dose of *bryonia* once in four hours, and a dose of *aconite* every hour between the doses of *bryonia* when-

ever there is any fever or heat of the skin. As soon as the patient is free from fever, during the fore-part of the day and latter part of the night, omit *aconite* and only give it when there is fever.

Tartar emetic—If the above remedies fail to check the progress of the disease, and the rattling of mucus is heard throughout both lungs, and there are great oppression and severe paroxysms of difficult breathing, give this remedy every hour.

Sulphur and *arsenicum* are the main reliance in desperate cases of this disease, when there are threatening symptoms of suffocation from an accumulation of mucus in the air-passages with rattling. Give a dose of *sulphur* every hour until five or six doses have been taken, and if the symptoms improve continue it; but if there is no improvement give *arsenicum* every hour.

CHRONIC BRONCHITIS.

Sulphur is indicated when there are cough and raising at night, stitches in the side, or when there is a dry cough at night, with or without copious expectoration of thick whitish mucus during the day, or when the symptoms are worse at every change of weather. Dose twice a day.

After two weeks follow *sulphur* with *pulsatilla*, and especially in case of females.

Bryonia should be given morning and noon, and *sulphur* before supper and at bed-time, when the disease is not of long standing. But if they do not relieve the symptoms, omit *bryonia* and give *sulphur* and *pulsatilla* in the same manner.

Bryonia is particularly indicated when there are cough in the morning with expectoration, and pains in

the side, and cough and vomiting after eating, and when the disease is aggravated after taking cold.

Phosphorus is indicated when the cough is excited by walking, drinking or talking; also for dry cough from tickling in the throat; and also when there is expectoration of salty, sour or sweet mucus. Dose three times a day.

OFFENSIVE BREATH.

Sulphur should be given in the morning, and *nux vomica* at night.

Give *pulsatilla* at night in place of *nux vomica*, if no improvement has taken place within a month.

BILIOUSNESS.

Bryonia—Give a dose of this every morning, and a dose of *nux vomica* every night, until relieved.

Never take any cathartics or emetics, and shun blue pills and all mercurials; they may afford palliative relief, but they never fail to do harm in the end.

CONSTIPATION OF THE BOWELS.

This is almost invariably the effect of disease: remove it, and your constipation is cured. And don't injure the bowels by scrubbing and torturing them with physic.

Constipation, if it occurs to persons confined to their rooms, is usually the result of inaction on the part of the stomach or liver, and calls for attention to them.

When it occurs to persons in bed or confined to their rooms, it is merely a part of the general torpor and want

of action which prevails in the system, and needs no separate treatment.

In all cases the diet should consist chiefly, or entirely, of fruit and vegetables and coarse bread, such as are not in themselves binding to the bowels.

CHOLERA-INFANTUM.

The remedies are the same as the following (cholera-morbus), except when the cause has been teething; then give *belladonna* and *ipccac* alternately every half-hour. Grown persons or children, who are subject to bowel-difficulties, should wear flannel tightly fitted around the body, from the chest to the hips. Cold drinks should be very sparingly used in such affections.

CHOLERA-MORBUS.

This disease is characterized by pains in the stomach and bowels, vomiting and often violent purging and is usually brought on by improper eating and drinking.

If you have reason to suppose that the substance that produced the affection is yet in the stomach, drink a pint or more of warm water, till the stomach is emptied by vomiting.

If bile is vomited and there are symptoms of biliousness, give a dose of *ipccac* every hour, and alternately with this give *nux vomica*, if the attack has been induced by vegetable food, acids or spirituous drinks. Doses one-half an hour a part.

Arsenicum, if there are violent vomiting and purging, great thirst and sense of weight at the pit of the stomach. Dose as above.

If the attack has been induced by eating pastry, meat or fatty substances, give *pulsatilla*, alternately with *ippecac*. Dose as above. *Veratrum* in place of *arsen.*, if that fails to check the purging and vomiting. Dose every hour.

INFLUENZA AND CATARRH.

When the symptoms are soreness of the throat, dry cough, headache, white-coated tongue and a feeling of general languor, or redness or watery condition of the eyes and much irritation of the nose, accompanied with a free discharge, the disease can often be arrested by the means pointed out in "Common Fevers."

Having used the *aconite* without relief, next use *mercurius vivus* every three hours; after giving two or three doses of this if there is no improvement, give *bryonia* alternately with *mercurius vivus* until relieved. Give doses three hours apart.

Give *camphor* every half-hour, when, in addition to the above symptoms, there is a sense of sudden and great prostration.

Nux vomica is best when the cough is dry and there are increase of restlessness in the after part of the day and night, soreness of the bowels and constipation. Dose every four hours.

Give *arsenicum* when there are great thirst, scalding water running from the eyes and nose, which are sore and swollen, heat in the fore-part of the head, which is aching, with relief and favorable symptoms when moving about and in the open air, and the reverse when lying down. Dose every four hours.

CHICKEN-POX.

Aconite may be given if the fever is very high, every two hours.

Belladonna, when there is any disturbance of the head, flightiness, or disposition to spasms. Dose every two hours.

Mercurius vivus when there is redness of the eyes, with running from the nose, or other catarrhal symptoms. Dose every four hours.

This disease is usually very mild and does not require any medicine.

HOOPING-COUGH.

Give *belladonna* and *cuprum metallicum*, alternately, three times a day. These remedies are adapted to a majority of cases.

If they do not lessen the severity of the disease, give *veratrum* after every paroxysm, especially if there are vomiting and great debility.

In obstinate cases give *tartar-emetic* after every paroxysm, and if it does not relieve the symptoms, give a dose of *sulphur* every night, and *belladonna* once in two hours during the day, until the patient is cured.

COSTIVENESS.

Nux vomica—If there are derangement of the stomach, headache or frequent urging to stool, with no passage or slight mucous discharge, give a dose every night. This

remedy is especially useful for those patients who are troubled with piles or are of sedentary habits. This is a good remedy for pregnant females who are troubled with nausea and vomiting. Give them a dose at night and one of *ipecac* in the morning. *Bryonia* is indicated for aged persons and those who are troubled with rheumatism, and also when *nux vomica* fails to relieve the case for which it seems indicated. Dose twice a day.

Opium may be given in recent cases of constipation, when there are heaviness and heating in the abdomen, or headache or red face. Dose twice a day.

Pulsatilla is useful in cases of acidity of the stomach. *Sepia* may follow this at the end of a week or two.

In chronic cases, if the above remedies fail, give *natrum muriaticum* every night; and wet a towel in cold water, every morning, and apply over the bowels, and over that three or four thicknesses of dry flannel, and confine the whole by a bandage around the body, pinned so as to exclude the cold air. In chronic cases, the remedy should be continued for several weeks without being changed.

CHILL IN CONFINEMENT.

Give *camphor*, when the chill is yet on. Dose every ten minutes.

Aconite, when the chill is gone and there are great heat all through the body, thirst, and a very rapid, full pulse. Dose every half-hour.

Pulsatilla, in alternation with the *aconite*, when the pains are irregular, tardy and defective, and there are much heat and restlessness. Doses one-half hour apart.

Belladonna, alternately with the *aconite* or the *pulsatilla*, when, in addition to the symptoms calling for one

of these remedies, there is great heat in the head, headache, flushed face or delirium. Doses one-half hour apart.

Cover the patient well. Warm drinks, such as weak black tea, may be given. These chills are the most difficult affections to cure in confinement, and therefore a physician should be immediately summoned.

COLIC.

Nux vomica will usually give relief in cases of constipation, and when the pains come and go at intervals, or if there is much flatulency. Given as directed in the "Introductory Rules," in doses every hour.

Colocynth is effective when the pains are accompanied by an urging to stool and looseness of the bowels. A dose every hour.

Pulsatilla is best to be given, should the pains come during the menstrual period, and especially if there is a sudden check of the flow. To be given every three hours.

But if there are fullness of the head, dizziness, pains severe and scanty flow, *cocculus* should be given in place of *pulsatilla*. Dose every four hours.

When the pains are in the nature of cramps, and cause the patient to almost cry out, then give *cuprum* every hour.

A wet compress in most cases of colic, will be of great service. Use hot water, and keep it upon the painful part, covered by a dry flannel bandage.

CONSUMPTION.

Lycopodium—This remedy should be given when there is a short dry cough, caused by a tickling in the chest;

or when there is a dry cough, accompanied by wheezing. And also later in the disease, when there is a loose cough, with a sore or raw sensation in the chest, and a salty, whitish or yellowish expectoration. Give a dose every night until improvement commences, after which, give it once a week as long as there is improvement.

Phosphorus—This is the proper remedy in the early stages of this disease, when there is a short, dry cough, from tickling in the chest, which is aggravated by walking, talking or laughing; and still later in the disease, when there are a loose cough and a sore feeling in the chest, tightness, shortness of breath, saltish expectoration morning and evening, night-sweats and a diarrhea. Dose every night.

Calcaria Carbonia—This is particularly adapted to young persons who have been subject to bleeding from the nose, and young females who have been troubled with profuse menstruation. And it should be given to those of any age, when there is a violent, dry cough, with tickling, as from fine dust in the air-passages. It is often required after *calcareo carbonia*. Dose every night.

Sulphur—This is the best remedy where patients have been troubled with eruptive diseases, and particularly if such eruptions have disappeared on the appearance of disease of the lungs. It should also be given when there is a short, dry cough, with soreness and an aggravation of the symptoms in cold, damp weather. Give this remedy every night for five nights, then omit it for a week, and if at the end of that time there is any improvement, give nothing as long as it lasts, after which *sulphur* may be repeated again. The chief articles of food should be bread and milk; the former should be made from shorts, or the second or third runnings, which contain an excess of the oil and mineral ingredients; fat beef and mutton, when the stomach will digest them; cream and baked potatoes, and fruits and vegetables in moderation.

CARBUNCLE.

The treatment in this is the same as in boils, with the following addition :

Arsenicum, when there is much general disturbance, such as nausea, general prostration of strength, and when the cavity formed by the discharge of matter is slow in healing, and its edges are of a bluish color. Dose every four hours.

CHILBLAINS.

Pulsatilla should be given at night and *arsenicum* in the morning ; and at the same time put a teaspoonful of the *tincture of arnica* in a tumblerful of water, and wash the parts with it five or six times a day.

COUGH AND COLD IN THE CHEST.

For dry, hollow coughs, especially if there is tickling in the throat, give *belladonna*, and also for spasmodic coughs. Dose every two hours.

Chamomilla is indicated when there are a suffocating cough, which seems to be caused by dryness, and burning and tickling in the throat and upper portion of the wind-pipe ; and also when there are a tickling in the throat-pit and cough at night. This remedy is often required for children. Dose once in two hours.

Nux vomica—This remedy is often required at the commencement of colds in the chest, when the cough is worse toward morning and the fore-part of the day,

accompanied with dryness, tickling and scraping in the windpipe. Dose every two hours. The following are also valuable remedies for dry coughs :

Lachesis, when the cough is worse after sleeping, or arising from the recumbent position, or in cold air.

Rhus toxicodendron, when there is a rough, scraping feeling, or tickling in the windpipe, and cough worse by inhaling cold air, and relieved by warm air and exercise.

Hyosciamus, when the cough is aggravated by lying down and relieved by sitting up, and if there are dryness and heat in the air-passages.

China, when children are troubled with worms, and are subject to a dry cough. Doses for the above, every three hours.

For loose coughs give either *belladonna*, *dulcamara*, or *ipecac*. Give as above indicated.

CHOLERA.

Croton tiglium should be used when there is a profuse diarrhea with griping pains. Dose every hour or half-hour.

Arsenicum, when the diarrhea is not controlled by two or three doses of *croton* and there is nausea. Dose as above.

Veratrum, when there is violent vomiting as well as purging, with cramps in the stomach or bowels or limbs. Dose every half-hour.

Cuprum, when, with the vomiting, the cramps are very severe, alternately with *veratrum*. Doses half an hour apart.

Cuprum is the best remedy, and should be taken alone

when cramps prevail and there are little or no vomiting and purging. Dose as above.

Camphor is also the best remedy when the others have failed and the stage of collapse is setting in; when the hands are blue and cold, the eyes sunken, and the whole body bathed in a cold, profuse perspiration. Dose every ten minutes. There is not a single remedy that has saved as many lives as that of *camphor* in this disease.

The surface of the body, especially the extremities, may be sponged with ice-water when there is great coldness, particularly when there is threatened collapse, once every half-hour till warmth returns.

CROUP.

There have frequently been new Homœopathic remedies brought forward for the croup, and their success in certain cases reported. But the old and well-tried remedies of *aconite*, *spongia*, *ippecac* and *hepar sulphuris* can be relied on. Upon the first appearance of croupy symptoms the remedy is *aconite*. Give a dose every fifteen minutes, till four doses are taken; then, if not better, give *spongia* alternately with the *aconite*, half an hour apart, till the patient is better; then one, two or three hours apart.

Hepar sulphuris is the best remedy for the hoarseness and cough remaining after the attack of croup is broken. Dose every three hours. After an attack of croup, the patient must be kept for at least twenty-four hours in a warm, dry room, and as free from excitement as possible. In case of any return, the same remedies must be used. In forty-nine cases out of fifty, these three remedies will accomplish the desired effect in this disease.

DIPHTHERIA.

Give, at the commencement, *aconite*, alternately with *mercurius protiode*, when the fever is high and the skin hot and the breath not very offensive and the patches of false membrane light-colored. But if the fever is less active, give *belladonna* in place of *aconite*. Unless the patient is growing manifestly worse, you should not change the remedies for others, oftener than twenty-four or forty-eight hours.

If in two or three days there is no improvement in the symptoms, omit the *mercurius protiode* and give in its place *mercurius vivus*. Dose of the above remedies, once every hour.

Lachesis—Give this remedy either alone or alternately with *mercurius*, when the acute symptoms are somewhat relieved and the fever less active; especially if there is a sensation as if a foreign body were sticking in the throat and the symptoms are worse after sleeping. Dose every hour.

If sudden and alarming prostration ensues at any stage of the disease, with cold extremities and small pulse, give either six globules or a drop of the *tincture of camphor*, every ten minutes, until the prostration is relieved. The following remedy for diphtheria has been thoroughly tested in many cases and has not, as yet, been known to fail in a single case to effect a cure, namely: Add eight drops of *aconite* and the same amount of *arsenicum* to two separate glass tumblerfuls of water and of this give a teaspoonful alternately every hour. As soon as the fever has abated, use *belladonna*, the same amount in place of the *aconite*. But in case there is fiery redness in the throat, in place of the

above remedies, use *capsicum*, ten drops to a glassful of water. Dose as above. *Powdered sulphur* should be blown into the throat by means of a quill or pipe-stem.

Give *lachesis* every hour when the patient begins to be troubled with a hoarse or squeaking cough and croupy symptoms occur, with paroxysms of difficult breathing; and if it does not soon afford relief, alternate it with *hepar sulphuris*, at intervals of one hour, and apply large towels wrung from hot water over the throat, neck and chest, as hot as can be borne, and apply dry flannels over the wet cloths. Change the wet towels every fifteen minutes, when there is much difficulty in breathing; at other times, once an hour.

Arsenicum—If the symptoms get steadily worse, the breath more offensive, the throat dark and putrid and the extremities cool, omit the *mercurius* and give *arsenicum*, alternately with *lachesis*. Dose every hour. The patient may wash the mouth and gargle the throat with a tea, made by pouring boiling water on dried apples.

DROPSY.

For dropsy of the chest, *sulphur*, *arsenicum*, *mercurius* and *bryonia* are the chief remedies. If they fail to relieve, give *apis mellifica*. One of these remedies may be given once in four hours.

If dropsy is caused by exposure to damp and wet weather, give *dulcamara*. If this fails to relieve, give *apis mellifica*. Dose every two hours.

For dropsy of the abdomen, *arsenicum*, *apis mellifica*, *dulcemara*, *sulphur* and *china* are important remedies, and one of them may be given once in four hours.

When this disease follows scarlet fever, give *arsenicum* and *helleborus*, alternately, once in two hours. If they

do not relieve the symptoms, give *apis mellifica*. Dose once in two hours.

If it has been caused by the abuse of mercury, give *sulphur*, alternately with *china*. Dose every three hours.

DYSPEPSIA.

Nux vomica, when there is a gnawing sensation in the stomach, craving, or aversion to food, headache, drowsiness and mental depression; also when this disease occurs in persons of sedentary habits, or those who freely use stimulants and condiments, and are subject to constipation. Dose every night for a week, then omit for two days; after which give a single dose of *sulphur*, then omit all medicines for six or seven days; after which give the *nux vomica* and *sulphur* in the same manner, and continue as long as there is any improvement.

Pulsatilla, when there is great acidity of the stomach, or acid eructations. This remedy is especially suitable to females in almost all forms of this disease. Give a dose every night for a week, then omit two days, after which give a dose of *hepar sulphuris*. Then omit all remedies for a week; then give these two remedies in the same manner again, and continue as long as there is any improvement.

China may be given every night if the patient is constantly troubled with flatulency or wind. If the above remedies do not entirely relieve the symptoms, give a dose of *calcarea carb.* every three days.

DEAFNESS.

If, on examination, you see that the passage is filled up with hardened wax, drop two or three drops of sweet-

oil in the ear, and after a few hours, syringe out the ear thoroughly with warm water; let the head, while using the syringe, be leaning over in the direction of the obstructed ear. Repeat once a day until the wax is removed. Give *sulphur* alternately with *pulsatilla*, once in five days, to prevent a return of the obstruction.

Nervous deafness—*Calcareo carbonia* is indicated if there is dryness in the ears, with singing, buzzing or ringing. Dose every night until there is a change, when the intervals should be gradually lengthened between the doses. If the patient is a female, once a month omit this remedy for a week, and give *pulsatilla* every night in its stead. If the patient is a male, and following a sedentary pursuit, and lives high, and has buzzing or whistling in the ears, give *sulphur* in the morning and *nux vomica* at night.

DYSENTERY.

Dysentery differs from diarrhea in this: the pains and urgings to stool are generally greater, and the discharges smaller and more frequent. There is a constant feeling as if something should pass, yet unrelieved, except momentarily, by an effort at stool.

The proper remedies are *bryonia* and *aconite* alternately, when there are chilliness, yet flushed face and headache, aching in the back and limbs, with soreness in the abdomen, and urging to stool. Doses an hour apart.

Colocynthis, when the colicky pains are very severe, the stools small, bilious and frequent. Doses every hour.

Mercurius corosivus, when the stools are bloody or mucous, in alternation with *belladonna*. Doses an hour apart.

Cantharides, when there are much pain in the bladder

and difficulty in urinating, alternately with *mercurius corrosivus* or *colocynthis*. Dose every hour.

DIARRHEA.

There are many varieties of this affection and various means are to be employed for their cure. It is the object here to give only a few of the many remedies and such as will usually meet the demands of most cases of diarrhea.

Croton tiglium, when the discharges are sudden, copious and attended with violent gripings. Dose every two hours.

Arsenicum should be given every hour, when *croton* does not relieve and when there are nausea, great thirst, debility and the surface of the body cold.

Veratrum, *pulsatilla* or *colocynthis* may be used, in case the *croton* and *arsen.* fail. Dose every two or three hours.

Colocynth is especially called for, in any stage of the complaint, when there are pain and griping in the bowels, either before or after a discharge.

ERYSIPELAS.

Belladonna, when the inflamed part is smooth and shiny or there is headache, fever or delirium. Dose every three hours.

Rhus rhadicum when the inflamed parts are covered with watery pimples or blisters. Dose every three hours.

Bryonia or *nux vomica* should be given alternately with *belladonna* or *rhus*, in cases with the symptoms for

these remedies, when there are violent pains in either side or any derangement of the stomach or liver. Doses two hours apart.

INFLAMED EYES.

Bathe with water as hot as can be borne, when there is great heat, redness or pains in any part of the eye. Apply it every two or three hours.

Belladonna, when the lids or ball of the eye are much inflamed, being red, painful and very sensitive to the light. Dose every three hours.

Pulsatilla, when the lids are much swollen and stuck together with mucus.

This is the best remedy for inflamed eyes after measles. Dose every four hours.

Mercurius vivus when *pulsatilla* fails to give relief or when there is matter discharged from the eyes. Dose as above.

Care must be taken to shield the eyes from much light. Reading and sewing must be abandoned.

EARACHE.

Aconite should be given first, when it is induced by cold, and when there is much local heat or fever. Dose every hour.

Pulsatilla should follow *aconite* in case two doses of it have given no relief, and especially if there is hardness of hearing or any discharge from the ear. Give as above.

Mercurius vivus in case there is much swelling within or about the ear, or the pain is worse in bed, and especi-

ally if the glands of the neck are swollen and sore. Dose every two hours.

A compress dipped in hot water should be kept upon the ear and surrounding parts, till the pain is relieved.

FOR PERSPIRATION OF THE FEET.

Carbo vegetabilis should be given every night for a week, and *sulphur* the next and so continue. When the perspiration is offensive and cold, *silicea* every night.

For habitual cold feet together with coldness of the lower extremities, *silicea* should be given at night and *rhus toxicodendron* in the morning. Wash the feet frequently with cold water.

For burning of the feet give *calcarea carbonia* every morning and *pulsatilla* every night, and wash them with warm water.

SIMPLE FEVERS, FROM A COLD.

A chill or general feeling of coldness is the first symptom, which, however, is not always observed.

Then follow a sensation of heat, flushed face, thirst, hot, dry skin, headache and perhaps pains in various parts of the body. And if these symptoms are not relieved by the proper remedies, the result is often lung-fever, pleurisy or other diseases. In this difficulty a cold bath is very successfully used, followed by briskly rubbing the surface with a towel, and a walk or run afterwards, until free perspiration is effected. But if the fever has set in or there already appear symptoms of an affection of a secondary and inflammatory character, the cold water must not be used.

When the cold stages have past and the fever rises,

give *aconite*, as directed in the "Introductory Rules," every half hour. When perspiration is produced, take no more ; or when the fever begins to abate, lengthen the time to a dose every two or three hours.

SCARLET FEVER.

Aconite and *ipsecac* when there are high fever and vomiting. Doses one-half hour apart.

Belladonna, in alternation with *ipsecac*, in case the *aconite* does not reduce the fever, after two doses of it are given ; especially when the surface of the body is red, throat inflamed and there is headache. Doses an hour apart.

Belladonna, when the skin is smooth, very red and hot, the throat very sore and there is intense headache, or delirium, or spasms. Dose every hour.

Capsicum, in alternation with *belladonna*, when the greatest trouble seems to be sore throat. Doses an hour apart.

Mercurius vivus, when there is watering of the eyes, running from the nose, or much swelling of the throat or neck. Dose every two hours.

Mercurius vivus, in alternation with *belladonna*, when in connection with the symptoms given for *mercurius vivus*, the fever or headache continues. Doses three hours apart.

Rhus rhadicum, when there is much aching in the limbs, or the eruption roughens the skin, or is itchy. Dose every two hours.

Arsenicum, in alternation with *rhus*, in case there are pains in the limbs, swelling of the feet and ankles, puffiness of the face, or there is a general dropsical condition or oppressed breathing. Doses three hours apart.

If there are any symptoms of croup or strangury, see chapters on those affections. Rub the entire surface of the body, in every case, with a piece of fat pork. This, I consider one of the most favorable conditions in which we can place a scarlet-fever patient. If the throat is highly inflamed, it would be well to gargle it with hot water, each time, just before taking a dose of medicine.

Belladonna is a *preventive* of scarlet fever. During the prevalence of the disease in the family or neighborhood, a dose of it may be given to a healthy child at bed-time, for two nights, and a dose of *sulphur* one night, and so continued until the epidemic is over.

CRYING AND SLEEPLESSNESS OF INFANTS.

When this originates from *colic*, *cold*, or from *teething*, see the chapters on those subjects. When they occur without any perceptible cause, the following remedies may be given to allay the nervous excitement: *Belladonna*, *nux vomica* or *chamomilla*. Dose every two hours.

Never dose your infants with narcotic drops and cordials. The mother who purchases quietude in her nursery by such means, often brings the quietude of death, or is afterwards pained to see her children grow up weak-minded men and women, and fit votaries of the cup.

REMITTENT OR BILIOUS FEVER.

Aconite—This should always be given at the commencement of this disease, especially if the skin is hot and dry, and the pulse full and there are violent pain in the

head, back and limbs, red eyes, faintness on rising, shooting pains in the chest with oppression, and short and anxious respiration and palpitation of the heart. Give this remedy every hour.

Belladonna—It is generally best to give either *belladonna* or *bryonia* after giving three or four doses of *aconite*, during a severe paroxysm of this disease. *Belladonna* should be selected when there are sharp, cutting, or throbbing pains in the head, especially over the eyes, with intolerance of light, restlessness, sleeplessness or delirium. Repeat the dose every hour.

Bryonia—This remedy should be selected in preference to *belladonna*, and given after *aconite* during the paroxysms when the pains in the head are dull or throbbing, with intense pain in the back and limbs; sensation of a load or weight at the stomach, pain and soreness in the region of the liver, yellow skin, cough and oppression of the chest, and bitter taste, with a dry tongue. Dose every two hours. If the above remedies are faithfully given during the paroxysms, they will rarely fail to render the latter lighter and the remissions more distinct in the course of a few days. They need not be continued during the *remission* when it becomes distinct, but one of the following remedies may be given once in two hours.

Ipecac, when there are nausea and vomiting, painful pressure and fullness at the pit of the stomach with aversion to food, and a yellow complexion. *Ipecac* need not be used longer than two or three remissions. Dose as above.

Nuxvomica may be given instead of *ipecac*, or follow that remedy during the remissions when there are marked bilious symptoms, such as yellow skin and eyes, swelling and tenderness, with pain in the region of the liver; cramp-like pains in the region of the stomach with sensitiveness on pressure, and bitter taste, with or without bilious vomiting. Dose once in two hours.

Arsenicum—If *nux vomica* does not relieve the stomach-symptoms in the course of a few days, especially if nausea and vomiting continue, with great thirst and soreness of the stomach on the slightest pressure, *arsenicum* should take the place of *nux vomica*, and especially if, in connection with such symptoms the extremities begin to become cool, and the pulse more frequent and less full and the remissions less distinct.

When such symptoms exist, *aconite* will not be needed, but *arsenicum* may be given alternately with *bryonia*, one hour apart during both the remission and the fever. If at the end of twenty-four or forty-eight hours the nausea, vomiting, thirst, burning and tenderness of the stomach are not relieved, *veratrum* should be given in place of *bryonia*, alternately with *arsenicum*, one hour apart, and be continued until such symptoms are relieved. If the bowels feel full and uncomfortable, a copious injection of tepid water may be used, once in three or four days.

Frequent sponging of the body with warm water, or a warm bath, often affords great relief. Hot water is generally preferable to cold, and has a better influence over the febrile excitement; and also, its use is more likely to relieve the severe pains in the back and limbs, than the application of cold water.

INTERMITTENT FEVER—Fever and Ague.

Aconite—This is the remedy, if the paroxysms are very severe, the skin hot and dry, the pulse full, with violent pain in the head. It should be given every hour, until perspiration ensues, commencing about one hour before the chill is expected.

Ipecac—This should be given in recent cases, if there

is any nausea or vomiting during the paroxysms, or feeling of fullness or oppression in the chest, with great thirst during the fever. It should be given every three hours, when the patient is awake, during the intermission, and give the *aconite* as directed during the fever.

The *ipecac* should be continued for about five days.

Nux vomica—This should be given if there are bilious symptoms, yellow skin and eyes, bitter taste, fullness or pain in the region of the liver or stomach, nausea and vomiting or constipation, thirst during the chill, but moderate thirst during the fever and sweat. This remedy is frequently required in old cases of this disease. Dose once in two hours.

Pulsatilla, when there is watery or bilious diarrhea, with or without sick stomach and acid vomiting, and if the paroxysms occur in the afternoon or evening, or the patient be a female. Dose every three hours.

In recent cases of ague, the foregoing are generally the most important remedies for the first six or eight days, after which *arsenicum* or *china* will often be required to either take their place, or if derangement of the stomach and liver still lingers, to be given alternately with *nux vomica*, two hours apart.

Arsenicum—After the bilious and stomach symptoms have been relieved by the above remedies and the disease somewhat modified by their use, as it will be, no remedy is as frequently required as this and no one will more frequently cure old cases of ague, than this. The chief indications for *arsenicum*, are very little thirst during the fever, chill and heat set in about the same time or alternate with each other, burning heat, as if boiling water were flowing through the veins, watery diarrhea, distress in the region of the heart, great debility, and when there is little or no chill, or chill and fever, with little or no sweat. Dose once in two hours, during the intermission.

China—This remedy will be of service when quinine has not been administered recently, when there is sallowness of the skin, a well-marked chill or shake, fever and sweat, with thirst before and during the chill and during the sweat, but not much thirst during the fever, and especially if the patient is hungry during the fever and intermission; soreness, tenderness and enlargement in the region of the spleen or beneath the left short ribs. Dose every three hours, during the intermission.

In obstinate cases of recent ague and also in old cases which have been dosed with quinine, patent medicines, etc., there are several other remedies that may be required.

Ignatia will be useful when the chills are moderated by external heat, pale face, or alternately pale and red, thirst during the chill, and in cases of children, if either the cold or hot stage is attended with convulsions. Doses every two hours, regularly.

Natrum muriaticum—This is one of the most superior remedies for the treatment of all old cases of this disease, where it has been frequently suppressed, if there is thirst during the chill and fever, with dry tongue, pains in the bones, with yellowish complexion and great debility, and especially if the paroxysms occur in the morning or fore-part of the day. Dose night and morning.

Carbo vegetabilis, when the patient has had the ague frequently, for years, and when there are rheumatic pains before or during the fever, and when the paroxysms occur in the evening or at night and terminate with a profuse perspiration. Dose night and morning.

Arnica, in old cases of this disease, where there are pains in the bones before the paroxysms, constant disposition to change position, each one being found uncomfortable, during the fever, loathing of meat during the intermission, loss of appetite and yellowish complexion.

A drop of this remedy on the tongue at the commencement of the chill will sometimes stop it and cure the disease at once.

Bryonia—When the paroxysms have been composed almost entirely of chills, followed by little or no sweat, this remedy rarely fails to afford prompt relief and effectually cure this disease. Dose once in three hours.

TYPHOID FEVER.

Bryonia—This remedy is as important in the treatment of this disease, as in the treatment of the typhus fever, especially during the first ten or twelve days, and when the bowels are constipated. The reader may consult the indications for this remedy, together with those for *rhus toxicodendron* and *arsenicum*, under the head of “Typhus Fever.”

Rhus toxicodendron may take the place of *bryonia*, during the later stages of this disease, provided there is great prostration, with crusts on the teeth and twitching of the tendons. Dose every two hours.

Arsenicum should be given, provided *rhus toxicodendron* does not check the tendency to dissolution. Dose every hour.

Gelsemium sempervirens will often do well at the commencement of the disease, when there is great fullness about the head, severe headache, or delirium. Dose every two hours.

Pulsatilla—Give this alone, or alternately with *bryonia*, when this disease commences with diarrhea, or when there is a bitterish taste, whitish tongue, or watery, bilious, or even mucous evacuations of the bowels.

China may be given during the forming stage of this

disease, when there is painless, watery diarrhea, with rumbling in the bowels, paleness of the face and ringing in the ears. Dose every two hours.

Arsenicum—This remedy should be given at any stage of the disease, when there are watery, slimy, whitish, greenish or more particularly brownish evacuations from the bowels. Dose every two hours.

Mercurius vivus may be given, instead of *arsenicum*, when the passage from the bowels becomes bloody or slimy, or if there is straining with the discharge. Dose every two hours.

TYPHUS FEVER.

Bryonia should be given in the first stage of this disease, before prostration or collapse arrives. It is a most important remedy when there are a dull pain in the head and great heat over the body and temples, with cold extremities, coated tongue, and when there is great soreness of the system. Dose once in two hours.

Aconite should be given in case the disease should commence with a full pulse and warm extremities, once in two hours, for twelve or twenty-four hours, or until the extremities are cool, before giving the *bryonia*.

We must avoid changing our remedies often, if we expect to derive the full benefit which they are capable of exerting in this and other diseases, which have somewhat a specific duration. *Bryonia*, when indicated in this disease, should generally be continued once in two or three hours, until the sixth or seventh day, or even longer if the patient seems to be doing well. A patient may be regarded as doing well, as long as he is not getting materially worse.

Belladonna—This may be given in place of *bryonia*,

if there are sharp pains in the head, with sensitiveness to noise and light, with or without delirium, early in the disease. Give once in two hours until the symptoms are relieved.

Nux vomica—This remedy is indicated in the first stages of this disease, when there is pain in the top and back of the head, when the skin, and eyes, and tongue are yellow or dry, when there are pain and weight in the right side, in the region of the liver, with constipation.

This remedy will seldom require more than two or three days, and then it should be followed by *bryonia*. Dose once in three hours.

Rhus toxicodendron, as the disease approaches the stage of great prostration or collapse, and the extremities become colder, the pulse weaker, and the tongue becomes dry and dark; this remedy should take the place of *bryonia* and be given once in two hours. But *rhus toxicodendron* is the main remedy in this disease, in great prostration, and in such cases should be given in the early stages, especially when there is delirium, cold perspiration, or dark spots on the skin. Dose once in two hours.

Arsenicum, when the tendency to decomposition and dissolution increases until the pulse becomes very small, and the surface cold and clammy. And it is especially indicated when there are profuse watery or offensive discharges from the bowels. Doses as above.

Camphor—During the course of the disease, especially about the seventh or fourteenth day, if very great prostration of strength ensue, the pulse small and irregular, the surface cold and clammy, give one drop of the common spirits of camphor, in a little sugar and water, every fifteen minutes, until the symptoms of excessive prostration are relieved. It should be remembered that we seldom "break up" this disease, or the typhoid fever.

It is the opinion of many writers that this can never entirely be done; it is quite certain that it generally runs its course, and what we chiefly do, is to lessen its severity, and bring it to a favorable termination.

Many of the Allopathic school produce fatal results, with their patients, in breaking the fever.

FELON.

The part affected should be immersed for five minutes at a time in water as hot as can be borne. Repeat it every hour.

Belladonna should be taken when the pain and heat are very great. Dose every two hours.

Mercurius vivus, in alternation with *belladonna*, when there is much swelling. Doses two hours apart.

Hepar sulphuris, alternately with *belladonna*, after the opening of the abscess. Doses four hours apart. As soon as the swelling appears soft, it should be opened.

A poultice of bread and water, or a compress wet in hot water, should be applied from the time the matter begins to collect, till the abscess is entirely healed.

FAINTING.

The clothing should be loosened, and immediate way made to the open air. If this does not restore consciousness, wet a cloth with alcohol, or some other stimulating spirit, and hold for a moment to the nose, and bathe the forehead with the same. In some cases the following remedies may be required:

Aconite, when there is feverishness, or violent palpitation of the heart. Dose every hour.

Belladonna, when there are flushed face, headache,

and a feeling or appearance of blood flowing to the head..
Dose every hour.

Chamomilla, when there are great excitability, fear and predisposition to hysterical troubles. Dose every half-hour.

FLOODING.

Remove the pillow from under the patient's head, and administer the following remedies :

Belladonna, when there are rapid, yet full pulse, bearing-down pains and a copious flow, coming at intervals. Dose every twenty minutes.

Ipecac, when the flow is more continuous, the pulse not so full, or there is nausea, or disposition to faint on rising. Dose every twenty minutes.

If the flow continues free, after four doses of the *ipecac*, give *belladonna* alternately with it. Doses ten minutes apart. These two remedies have been efficient in the worst cases, and very seldom fail. In critical cases, medical aid may have to be consulted.

GOITER—BIG NECK.

Spongia—This remedy should be given every night, for two months or more; rub hard and press the swelling frequently. If this should not cure the disease, dissolve in one ounce of water one grain of *iodine* and two grains of *iodide of potassa*, and of this solution give one drop on sugar night and morning. Also dissolve one drachm of *iodide of potassa* in a pint of water, and every night wet a few thicknesses of cotton or linen cloth in it, and lay over the swelling, then cover well with dry flannel.

GRAVEL.

Lycopodium should be given if the sediment in the urine is yellowish or red; if it is light-colored, give *calcareo carbonia*. Dose every night. *Cantharides* and *cannabis*, given alternately twice a day, are valuable remedies for the irritation caused by either stone in the bladder, or in the pelvis of the kidneys.

Belladonna—This should be given every half-hour, for the severe pain caused by the passage of the stone from the kidneys to the bladder. But, if after giving four doses, no relief follows, give *nux vomica* in the same way.

If convenient, put the patient into a warm bath; if not, wring a sheet from warm water, and wrap it around the body, from below the arms to the hips, and put over the sheet, dry flannel. Wet the sheet often.

For dose, see "Introductory Rules."

GONORRHEA.

Cannabis should be given at the commencement of this disease, if there are fever, headache and restlessness, once in two hours, during the forenoon, and *aconite*, once in two hours, during the afternoon and evening, and continue these remedies for several days, if there is any improvement. But if the fever and scalding pain are not lessened, during the morning and forenoon, omit *cannabis*, and give *cantharides* and *aconite* during the afternoon and evening; continue these remedies until these symptoms are, in a great measure, relieved; then if the difficulty of passing urine and the scalding do not abate, omit *aconite* and give *cannabis*, alternately with *can-*

tharides. Dose every two hours. *Cantharides* is the best remedy for painful erections or chordee.

Mercurius vivus should be given every night, and *sulphur* every morning, if the discharge lingers and threatens to become chronic; that is, after the acute symptoms have been removed by the above remedies; if, after two or three weeks they fail to afford relief, give *silicea*, every night, for a week, and continue if there is improvement; after which return to *mercurius vivus*, and *sulphur* again.

In obstinate cases of this disease, if other remedies fail, use weak injections of *sulphate of zinc*, or *nitrate of silver*, from one-half to a grain of the former, or one-fourth to one-half a grain of the latter, to an ounce of rain-water, once a day.

In using them, press firmly in the passage, back of the sore, and thus prevent the fluid from passing into the bladder, excepting when the inflammation extends to this organ.

It is best at the commencement of an attack of gonorrhea, to wrap the penis in cotton or linen cloths, wrung from cold water, and surround the wet cloth with several thicknesses of dry flannel; wet the cloth once in six hours. If, at the end of three or four days, the symptoms are not improving, use warm, instead of cold water, once every hour.

The patient should live on the lightest diet possible, use no stimulating drinks and take but little exercise; the more quiet he keeps, the better.

HEADACHE.

Nux vomica, for indigestion, from mental labor, and when there is momentary partial blindness or spots before the eyes, and when the headache begins in the

morning. It is best adapted to persons of bilious temperaments, or who have piles or constipation, and should be given every four hours.

Ipecac, for violent sick headache, nausea and vomiting of bile, in alternation with *nux vomica*. Dose as above.

Belladonna, for persons of full, active brains, and who are subject to a rush of blood to the head; more especially when there is a feeling of fullness in the head, with heat and throbbing, and the eyes are very sensitive to the light. Dose every four hours.

Colocynth, for very severe one-sided headache, which is increased by stooping or lying, especially when it comes in the latter part of the day and induces nausea. Give every two hours.

Apply a hot compress to the head in case of tendency of blood to that part, great heat and stupifying pains. Renew it every hour.

AFFECTIONS OF THE HEART.

Aconite should be given when there is acute pain or heat in the region of the heart, or violent palpitation. Dose every hour.

Arsenicum when there are great burning in the region of the heart and a sense of smothering, worse when lying down; especially when, in connection with these symptoms, there is a dropsical condition of the feet and ankles. Dose every three hours.

Capsicum, in alternation with *arsenicum*, when the burning in the heart is very great, and there is a constant short cough and palpitation. Doses two hours apart.

Bryonia, in alternation with *arsenicum*, when the patient is subject to rheumatism, or there is much headache or cough. Doses as above.

Rhus radicum, in alternation with *arsenicum*, or alone,

when there are rheumatic pains in the limbs, which become worse when at rest or at night. Doses two hours apart.

HIP-DISEASE AND WHITE-SWELLING.

Mercurius vivus—This remedy should be given night and morning, as it is one of the best in use at the commencement of this disease. But in cases where there is much pain give *belladonna* occasionally between the doses of *mercurius*. *Colocynth* will also sometimes relieve the pain.

Continue *mercurius* as long as there is any improvement, but when it ceases, or when the patient is apparently well, do not stop the treatment, but give *sulphur* every night for a week, and *calcareo carbonia* every night for the next week, and so continue.

If an abscess begins to form, give *hepar sulphuris* twice a day, and after it breaks give *silicea* every night for one week, and *calcareo carbonia* every night for the next week, and so continue until the discharges cease.

Treat *white-swelling* in the same manner. Dose, see "Introductory Rules."

HEARTBURN—WATER-BRASH.

Vinegar is a very valuable remedy for immediate relief. It should be of the best quality and taken, one-half teaspoonful, every hour.

Bryonia, when the food rises into the mouth with a bitter taste, and there are headache, flushed face and dizziness, with chilliness and feelings of heat alternately. Dose every four hours.

Arsenicum, when there are much burning at the pit of

the stomach, thirst and occasional nausea, with soreness of the bowels and griping pains. Dose every four hours.

Nux vomica, when the indigestion has arisen from indulgence in liquors or beer, or the use of fruits or vegetables, and there are eructations of wind, a foul taste in the mouth and constipation of the bowels. Dose every four hours.

Pulsatilla, when the trouble has come from using fat or greasy food, or rich pastry, and there is more of a tendency to diarrhea. Dose every four hours.

Persons subject to indigestion should drink little or no liquid while eating, and for an hour after. The use of acid wines in place of tea and coffee is good, especially if there are acid eructations. Soda, salaratus, lime-water, and all other alkaline substances, should be totally discarded, for they destroy the lining membrane of the stomach and make dyspepsia perfectly incurable.

ITCH.

Sulphur—Give a dose of this three times a day, for three or four days. At the end of this time, after washing the body with warm water and soap, rub fresh lard freely over every part diseased, night and morning. If at the end of two weeks the disease is not nearly or quite cured, make an ointment by stirring a teaspoonful of the *flowers of sulphur* into a teacupful of melted lard, continuing the stirring until the lard is cold. Apply this every night to the parts diseased until cured, continuing, at the same time, the *sulphur* internally twice a day.

JAUNDICE.

Bryonia should be given when there is fever, fullness, soreness or pain in the region of the liver. Dose every six hours.

If there is headache, give *belladonna* alternately with *bryonia*, three hours apart, when the patient is awake. If the symptoms continue to improve, continue giving them several weeks.

Nux vomica, when *bryonia* fails, or it may be given at the commencement of the attack, in place of it, when the disease has been caused by mental application, passion, intemperance or the suppression of an intermittent fever. Dose three times a day.

Mercurius vivus, when the skin becomes very yellow and the region of the liver painful to the touch, swollen and hard, and when the stools are of a grayish-white color. Dose three times a day.

China may be given if the disease has been caused by the use of mercury; also, if connected with intermittent fever and *nux vomica* fails to relieve the symptoms. Dose twice a day.

In obstinate cases, *sulphur*, *nitric acid*, *hepar sulphuris*, *lachesis*, one or more may be required.

INFLAMMATION OF THE BLADDER OR KIDNEYS.

If the kidneys alone are affected, there are great pain, heat and soreness across the small of the back. The urine is hot and high-colored. When the bladder is also affected, the pains extend from the back over the

hips. There are great urging to urinate and much burning and pain during the operation.

The water may pass only in drops or be bloody. Ninety-nine cases out of a hundred of inflammation of either the kidneys or bladder can be cured by taking *aconite* and *cantharides* alternately. We might go further and truthfully say that it can be cured by *cantharides alone*.

Substitute *belladonna* for the *aconite* if there is headache or extreme nervousness.

Wet cloths from hot water may be applied over the affected parts and renewed every half-hour.

INFLAMMATION OF THE LUNGS.

Give a dose of *aconite* every hour; after two doses are given, then give *bryonia* with it alternately. Doses an hour apart.

If there is much rattling of mucus in the chest, or if there are nausea and oppressed breathing, give *tartar emetic* in place of the *bryonia*.

Belladonna may be substituted for the *aconite* where there is severe headache, flushed face, or the fever continues unchecked.

At the time of giving the *belladonna* wring cloths out of hot water and apply them to the seat of the pain and cover with dry flannel.

Do not apply mustard-plasters or blisters.

INFLAMMATION OF THE LIVER.

This affection is characterized by the pain being in the right side, in place of the left; otherwise it has many

of the symptoms of inflammation of the stomach. The tongue is generally coated yellow, and the skin has the appearance of a jaundiced patient.

If there is general fever, *aconite* should be given every four hours.

Nux vomica is best when there are great tenderness and fullness of the liver, and constipation of the bowels, alternately with the *aconite*. Doses two hours apart.

Bryonia is indicated when there is constant short cough, pains shooting up into the chest, great soreness, with constipation. Give dose as above.

Mercurius vivus, when the liver is much enlarged, bitter taste in the mouth, disposition to sweat and looseness of the bowels. It should be given alternately with *bryonia*. Dose every two hours.

Belladonna should be given when there are excessive pain, oppression in breathing, headache, giddiness and flushed face, every six hours.

A compress of hot water may be applied to the region of the liver, and renewed every hour.

BLEEDING FROM THE LUNGS.

Loosen the clothing about the neck and waist, place the patient half way between a sitting and a lying position, and then apply cold water to the chest. The patient should not speak.

Give *aconite* alternately with *ippecac* every fifteen minutes. If these are not at hand, dissolve a teaspoonful of salt in half a glassful of water, and give a tablespoonful of it every ten minutes. If the hemorrhage has been caused by violent muscular exertion, speaking or singing, give *arnica* every fifteen minutes, in place of

aconite and *ipecac.* After the bleeding ceases, give it once an hour, to prevent its return.

Pulsatilla—In females, if the cause is suppression of the menses, and also in other cases when the blood is dark and clotted, from escaping slowly, give a dose every half-hour.

China, when it occurs in weak and exhausted persons, and when it is very profuse, and causes great exhaustion and faintness. Dose every fifteen minutes until relieved; then every three hours until the debility is relieved.

MEASLES.

Aconite is the first remedy to be used in this disease, and is sometimes the only one required. Give it every two hours.

Pulsatilla, in case the eyes are very much inflamed and swollen, or the eruption is slow in developing on the skin; also for the running from the ears, occurring after the disease. Dose every two hours.

Bryonia, when the cough is severe, there are difficulty in breathing, pain in the chest, and the eruption is faint. Dose every two hours.

Belladonna, when there are tendency of blood to the head, burning skin and delirium, alternately with *aconite*. Doses four hours apart.

MUMPS.

Mercurius vivus is almost a specific in this affection. Dose every four hours.

Belladonna, in alternation with *mercurius vivus*, in case there is any headache, fever or delirium. Doses two hours apart.

Hot water, if applied by a compress to the swollen

parts, will much relieve the pain or heat. Renew every hour.

STY.

A weak tincture of *Belladonna*, in the proportion of one part of the tincture to nine parts of alcohol, will generally blight a beginning sty. Moisten the finger with the tincture and apply. Two or three such applications will usually be sufficient to cure the inflammation and swelling, and afford complete relief.

SUPPRESSED MENSES.

Pulsatilla may be given every night, if it is the result of exposure, or getting the feet wet. If there is a feeling of fullness in the head, together with headache, in addition to this remedy give *belladonna* in the morning, and continue these remedies until the next period arrives. If the menses have been some time suppressed, continue them for four weeks, unless relief is had in the meantime. If they fail, *sepia* should be given alternately with *pulsatilla* every two days.

Aconite—This remedy should be given three times a day where the suppression has been caused by fright or violent mental excitement; also when it arises from other causes, if there are fullness of the head and flushed face with palpitation of the heart. As soon as these symptoms are removed give but one dose a day.

Lycopodium should follow *aconite* if the latter fails to bring on the menses. Give a dose every night for a week, then only twice a week. This is also a valuable remedy when the patient is suffering with the whites, or leucorrhœa, the face pale and the spirits depressed.

Bryonia—Give this in obstinate cases every morning, or if there are frequent chills, or a disposition to cough.

PAINFUL MENSTRUATION.

Platina—If the menses are profuse, last long or return too frequently, with severe pains and pressure in the region of the womb, give a dose of this remedy every night between the periods, and night and morning during the flow, and continue for a month, or as long as there is any improvement.

If the menses are natural, as to quantity, or scanty or are irregular or delayed as to time of appearance, give *sulphur* and *pulsatilla* alternately, one day apart, on retiring at night. During the pain give *pulsatilla* once in two hours. *Chamomilla* or *belladonna* will sometimes relieve the pain if *pulsatilla* fails.

If the flow is scanty and the pains severe, apply cloths wrung from warm water, over the lower part of the abdomen and between the thighs.

NEURALGIA IN THE FACE AND HEAD.

Belladonna should be given for all cases of neuralgia of any kind, hourly, as directed by the "Introductory Rules."

Rhus radicus for the same, when you do not obtain relief from the *belladonna*, especially when the pains are worse at night, or when the patient is at rest. Dose every hour.

Arsenicum, when the pains come at regular intervals and are burning and there is nausea or a sense of general

prostration. Dose as above. This remedy may be taken in alternation with *belladonna* or *rhus*.

Aconite, when the attack has come on after a chill or from a cold, and especially if there is any accompanying fever. Dose every hour.

In some cases *colocynth* is very good. (See "Head-ache.")

SORE NIPPLES.

Arnica—Add eight or ten drops to a tablespoonful of water and use as a wash. Before nursing, wash them with tepid water. At the same time give *arnica* internally, once in two hours, and if there are much pain and soreness, give it alternately with *chamomilla* every two hours.

If, after the above treatment, the nipples become cracked or ulcerated, give *sulphur* every night and *silicea* in the morning.

BLEEDING OF THE NOSE.

When it is but slight, no remedies are needed. When it is profuse or too long continued, use the following:

Aconite, when there are considerable excitement of the pulse, hurried breathing and hot skin. Give every half-hour.

Belladonna, when there are great heat and fullness of the head, or the bleeding has come from stooping or being over-heated. Dose every half-hour.

Pulsatilla, when the bleeding comes from a sudden suppression of the menses, or an insufficient flow during the menstrual period. Dose every two hours.

Never apply cold water or ice to the nose, for they will cause a reaction and a consequent continued bleeding.

PLEURISY.

For this disease, *aconite* is the chief remedy. Give a dose every hour. If there is no abatement of the pain after two doses are given, then give *bryonia* alternately with it every half-hour. If relief is not obtained after four hours, *belladonna* should be given in place of the *aconite* and *bryonia*. Dose every hour. At the same time the *belladonna* is used, wring cloths out of hot water and apply them to the seat of the pain. Cover these with dry flannel.

These three medicines and the hot water are capable of curing most, if not all, cases of pleurisy. For doses, see "Introductory Rules."

Pleurisy is usually characterized by a short, stitching pain in the side, felt most in taking breath, preceded by chills, and more or less fever accompanies it.

PARALYSIS—PALSY

The adulteration of liquors and beers with *nux vomica*, *cocculus* and *lead* is helping to cause many more cases of this affection than formerly. When the want of sensation or motion is observed in any part of the body, after a fit of apoplexy, or spasms of any kind, a continuance of the very remedies successfully employed in these affections will often be sufficient to remove it.

Rhus radicum is our best remedy for such paralysis, especially if there is aching in the parts affected, and this becomes worse when at rest. Dose every three or four hours.

Cold water, applied by sponging or pouring on the

parts lacking sensibility, is of great benefit. *Hot water* is better when there is much heat and pain, yet want of power, in any part. Apply by fomentations every four hours.

PILES.

Nux vomica, when the patient is of a costive habit, or subject to indigestion or flatulency. Dose every three hours.

Arsenicum, when there is more tendency to diarrhea, and when there is great heat and burning in the parts. Dose as before.

The pain caused by this affection may often promptly be relieved by bathing the parts in hot water.

Aconite should be given if there are much inflammation, pain, soreness and fever. Dose once in two hours.

Nitric acid, when there is hemorrhage, once in two hours until it is relieved, then give a dose every morning, and a dose of *nux vomica* every night, for two weeks; after which give *nux vomica* at night and *sulphur* in the morning. These two remedies should be continued for several months if necessary.

If, notwithstanding these remedies, the hemorrhage returns, a dose of *calcareo carbonia*, given night and morning for a few weeks, will rarely fail to relieve this symptom. If the flow of blood is very profuse, give a dose of *ipecac* every hour until relieved.

As a general rule, to effect a lasting cure, the patient must shun the causes that produce the disease. He must abstain from stimulating drinks, spices, use brown bread and but little meat; eat temperately and take active, out-door exercise.

ACUTE RHEUMATISM.

Speedy relief of this painful affection is generally obtained under the Homœopathic treatment.

Aconite should be given when the pulse is full and rapid and there is thirst and the painful parts are hot and sore. Dose every two hours.

Bryonia, when the painful parts are very sore, swollen and reddened, when the pains are made worse by motion and the tongue is coated white or yellow, especially when there are disturbance of the stomach and constipated bowels. Dose every two hours.

Rhus radicus, when the pains are made better by motion, or are worse at night or when at rest, and especially if the attack is from a sudden suppression of some rash or eruption. Dose as above.

Aconite may be given alternately with either of these remedies in case there is much general fever. Doses an hour apart.

The application of raw cotton to the painful parts, keeping it bound tightly to them, affords protection and favors recovery.

Of the above remedies, *aconite* and *bryonia* are more especially adapted to inflammatory rheumatism, while *rhus radicus* is applicable to cases not inflammatory.

When this disease is of a more nervous character, use the following remedies :

Pulsatilla, when the pains shift rapidly from one place to another, when there is a sensation of numbness or lameness of the affected part, or a feeling of coldness at every change of weather, also when the pains are aggravated in a warm room and relieved by cool air. Dose every two hours.

Bryonia, after the acute symptoms have somewhat

yielded to *aconite* and in cases not attended with much fever from the commencement, or when moving the affected parts causes stitching, tearing or shooting pains, or when there is profuse perspiration, or the symptoms are aggravated by motion and are worse at night or in the morning. Dose every four hours.

Mercurius vivus should be selected when the pains seem to be in the bones, also when they are in the joints or muscles, if there is a profuse perspiration, which affords no relief, and when there is a feeling of coldness in the parts and the pains burning or tearing and worse in cold or damp weather and at night. Dose every three hours.

CHRONIC RHEUMATISM.

Sulphur, in all cases of acute rheumatism which linger and threaten the chronic form, also when this disease has been caused by the abuse of calomel or mercury. It may be given night and morning. If it fails to relieve, *hepar sulphuris* may be given in the same manner.

Lycopodium, *lachesis*, *phosphorus*, *sepia* and *calcareo carbonia* may be used in turn, giving a dose night and morning, and continuing the remedy for at least two weeks and longer if the patient improves.

Several of the remedies named for the inflammatory rheumatism, especially *bryonia* and *pulsatilla*, will be found serviceable, and the indications for their use there given are sufficient.

RINGWORM.

Sulphur should be given night and morning for three days, and then give *sepia* for a week in the same manner,

when if a cure is not effected, give *charcoal* twice a day.

Arsenicum is frequently required in very obstinate cases.

NETTLE-RASH.

Pulsatilla, when there are evident derangement of the stomach and looseness of the bowels. Dose every eight hours.

Rhus toxicodendron, when there is any predisposition to erysipelas, or to rheumatism. Dose every four hours.

Nux vomica, when there are derangement of the stomach and constipation of the bowels. Dose every eight hours.

Warm or hot baths are very soothing and beneficial in this affection, both night and morning.

INFLAMMATION OF THE STOMACH.

This disease may be distinguished by cutting or burning pains in the pit of the stomach, and to the left side of it, increased by pressure, by taking food or breathing.

Aconite should be the first remedy given, then alternated with one of the following remedies :

Arsenicum, when there are nausea, great thirst, burning in the stomach and vomiting, or if there is diarrhea.

Nux vomica, when the attack has been induced by eating fruits or vegetables, or by alcoholic drinks, and the bowels are constipated.

Veratrum, when the vomiting is excessive, and not relieved by *arsenicum* ; especially when the extremities are cold, or cramps are in the stomach.

Give *capsicum*, when there is very much burning in the stomach. Dose every half-hour.

Very hot water should be given, half a pint, before

any medicine is given, and then enough of it to satisfy the thirst, between all doses of medicine.

In this affection no cold drinks should be given. If there is much external heat in the region of the stomach, frequent sponging with hot water will be beneficial.

CONVULSIONS—SPASMS.

If these should occur in apoplexy, or at the time when the patient is afflicted with congestion of the brain, the remedies pointed out under the head of apoplexy are to be used. But when they occur in children, other remedies are required, as hereafter given.

When they are troubled with them it is usually during the time of teething, and generally from some carelessness on the part of the nurse—a fall, improper feeding or exposure to the sun. The abominable, yea, murderous practice of bathing infants' heads in *cold water*, may be justly blamed for many a case of brain-disease, and consequent death. The water used on a child's head should always be warmer than that used on the body, especially the limbs.

Hot water should be used in this affection, on the first appearance of heat in the head; apply it with cloths for five minutes, and repeat every two hours.

If the child has eaten any rich, indigestible food, and seems sick at the stomach, put your finger down its throat so as to promote vomiting.

Aconite, when there are high fever, skin hot over the whole body, and great thirst. Dose every hour.

Belladonna, when there are much heat in the head, flushed face and cool hands and feet; or when there are dilated pupils and great nervous excitement; or when

aconite fails to reduce the fever after two or three doses. Dose every hour.

In case spasms come on with the above symptoms, give the *bell.* till they cease. Dose every ten minutes.

Chamomilla, when, during the spasms there is great jerking of the muscles of the face, clenching of the hands, redness of the cheeks and looseness of the bowels. Dose every ten minutes.

Nux vomica, when the spasm has come from some indigestible food, the child has been colicky and constipated in the bowels, and when it is inclined to bend the head backward, and stiffen its limbs during the spasm. Dose every half-hour.

The child should not be agitated by carrying it about, or plunging it into a hot bath ; or no application to the head of water, *except it is hot*, nor unless *cold* to the extremities, should be used.

One that comes out of a spasm with ice to the head, or with the feet in hot water, would do so better without these means.

MORNING-SICKNESS.

Pulsatilla—Give a dose of this remedy every night for heartburn or sour stomach ; if it fails to give relief give a dose of *nux vomica* every night, and a dose of *pulsatilla* every morning.

Nux vomica—Give this for nausea and vomiting every night, and a dose of *ipecac* at any time when there is any nausea, but not more frequently than four times a day.

If the above remedies fail, give *natrum muriaticum*, night and morning.

Arsenicum, in obstinate cases when there are great heat and burning in the stomach. Dose twice a day.

Some females are troubled with heart-burn, sour stom-

ach and vomiting until after delivery, unless relieved by treatment.

SPRAINS.

As soon as possible after the occurrence of a sprain, the part affected should be wrapped in cloths wet in a solution of *arnica-tincture*, one part to three of cold water. This wrapping should be wet afresh every hour. As in bruises, so here, if inflammation has arisen, the application must be hot and not cold. Should the parts afterwards be painful and lame, *rhys radicum* may be taken. Dose every four hours, and a solution of the same, one part to five parts of water, may be applied externally.

SPITTING BLOOD.

If a mechanical injury is the cause, *arnica* is the remedy used externally and internally. Take muslin three or four thicknesses, wet with the tincture and spread it on the chest and stomach. Give a dose of the medicine internally every two hours.

In this disease the blood sometimes comes from the throat. When this is the case, it issues in small quantities, and is dark-colored. When it comes from the stomach, it is vomited, is attended with nausea and burning in the pit of the stomach, and is dark-colored. When it comes from the lungs it is often frothy and usually of a bright-red color. It comes after hard coughing, a blow or a strain. Sometimes the blood comes from the nose; when this is the case the spitting occurs at night, or after a sleep.

When the blood comes from the stomach *arsenicum* is

the best remedy, and may be given alternately with *capsicum* two hours apart.

Spitting of blood, sometimes is occasioned from a sudden suppression of some habitual discharge, as in piles, or the menses, and is of a bright-red color. Then give *pulsatilla* and *aconite* alternately, every two hours.

Bryonia and *belladonna*, either singly or in alternation, are the best remedies when the hemorrhage is from the lungs. A dose every hour.

The patient should remain very calm and be kept quiet. But there is no occasion for any fright in this disease, for it is not a dangerous one, unless persons are very indiscreet. The patient should remain in a recumbent posture, and not be allowed to talk or to drink cold water, except in moderate quantities.

SMALL-POX.

Rhus radicus and *mercurius vivus*, given alternately, will carry safely through eight out of every ten cases, without the aid of other medicines. Doses four hours apart.

Belladonna should be substituted for *rhus* when there is flushed face, congested eyes, headache or delirium.

Ipecac may be substituted for *rhus* when there are nausea and vomiting. Doses one or two hours apart.

Arsenicum in place of *ipecac*, when it does not afford relief, especially if there are great prostration, thirst and oppression at the pit of the stomach.

Tartar-emetic is used in all cases of small-pox and may be employed from the beginning of the disease. Dr. Liedbeck, of Stockholm, states that he has never seen a

case of small-pox terminate fatally when treated with *tartar-emetica* in small doses. Dose every four hours.

Varioloid—This should be treated in a similar manner to small-pox.

SEA-SICKNESS.

Nux vomica should be taken just before starting, then in case of giddiness, nausea or vomiting while in motion, a dose of *cocculus* should be taken, in alternation with the *nux vomica*. Doses every two hours.

In any case in which the above remedies fail, give *arsenicum* once in two hours.

In obstinate cases, omit the above remedies for a time and give *sulphur*, once in six hours.

Petroleum, when there are much nausea, vomiting and giddiness. A few doses should be taken in alternation with *nux vomica*, before commencing the voyage.

SCURVY.

Mercurius vivus—If the patient has not recently taken this medicine in large doses, give it once in four hours, when he is awake, especially when the teeth are loose and the gums ulcerated, and there are swellings on the limbs.

Carbo vegetabilis may follow *mercurius vivus* or precede it, when there are burning sensations in the mouth or very great weakness, or when the breath is offensive.

Nux vomica should be given, alternately with *carbo vegetabilis*, in case this fails to relieve. Dose every two hours.

Arsenicum—This remedy should follow the above, in

case they fail to benefit or relieve all the symptoms, and particularly when there are burning sensations, ulcers on the edges of the tongue, and swelling of the limbs. Give a dose every three hours.

Lemon-juice is one of the best remedies, and should be given in the form of lemonade. Vinegar is of but very little value. A proper diet is of more value than medicine. Among the most important are acid fruits; next in importance, are, perhaps, potatoes; then raw cabbage, turnips, carrots, etc.

Fresh meat is very useful, especially wild meat, and should be used when it can be obtained.

SCALD-HEAD.

Cut the hair close to the head, and apply a large linseed-meal poultice every night, washing it off every morning with soap and water, and brush the head carefully with a soft hair-brush, and continue these measures until the crust is removed.

Sulphur—Give this remedy every night for a month; then *calcareo carbonia* the same length of time.

Hepar sulphuris—This is one of the best remedies for this disease. Give a dose every night and morning for three weeks; then give *lycopodium* every night, for two or three weeks. To cure this disease a persevering treatment is required. *Sepia* and *sulphur* may follow the above remedies if necessary, and may be given in the same manner.

Arsenicum—If the other remedies fail give this three times a day.

In this disease the diet should be light but nourishing.

VENEREAL DISEASE (*Syphilis*).

Mercurius vivus should be taken before every meal, and at bed-time, for four days; then night and morning only. Should proud flesh start up, and the ulcer not heal readily, omit the *mercurius* and give *nitric acid*, twice a day until the ulcer is healed; then give a dose of *mercurius vivus* every night for three or four weeks, at which time if there is no appearance of sore-throat or eruptions on the skin, the remedy may be discontinued.

Mercurius corrosivus—If after giving *mercurius vivus* for two weeks there is no change in the ulcer, and the bottom of it still presents a lard-like appearance, give this remedy once in six hours, until red granulations make their appearance, then give it only twice a day. If at the end of a week there is no change, give *sulphur* alternately with *mercurius corrosivus* for a few days, at intervals of six hours. When there is a marked improvement omit the sulphur, and give *mercurius corrosivus* night and morning.

Lachesis should be given alternately with *mercurius vivus* when the ulcer presents a darkish appearance and spreads rapidly by sloughing. Doses every four hours.

If these remedies do not check the progress of the disease, omit the *mercurius* and give *arsenicum* alternately with *lachesis* every three hours until the sloughing ceases; then omit these remedies and give *mercurius corrosivus*.

The ulcer should be kept clean by means of water; and lint wet in cold water may be applied to the ulcer, and if it becomes irritable and painful, apply cold water.

The patient should live on very light diet, abstaining from stimulating drinks, condiments and generally from animal food, and eat moderately.

Secondary Syphilis—*Mercurius vivus* should be given if the ulcer appear in the throat and eruptions on the skin, unless the patient has been taking mercury or calomel in large doses. Dose night and morning for a week, then give *mercurius vivus* at night and *sulphur* in the morning, for a week; after which give *mercurius vivus* every night. If at the end of another week there is no change for the better, give *mercurius corrosivus* twice a day.

Lachesis—This remedy should follow the mercurial preparations, and afterwards *nitric acid*. Dose twice a day.

TEETHING.

The plan of cutting the gums as soon as the form of a tooth is seen, is bad; for, unless the tooth comes immediately through, the cut heals, thereby forming a tough scar, through which it has to force its tedious way. When the edge of the tooth looks white along the gum, and there is a disturbance of the comfort or health, a slight cut with a knife, or a rub by a mother's thimble, will set free the struggling prisoner, and end all trouble.

When the necessary relief is not obtained by cutting the gum, or several teeth are pressing forward at the same time, the following remedies may be called for:

Aconite, when there is high fever, full, rapid pulse, and flushed face. Dose every two hours.

Belladonna, when the *aconite* fails to break the fever after two doses, or there is great nervousness, heat in the head or threatening spasms. Dose every hour.

Chamomilla, when the bowels are loose, when there are greenish-colored stools, starting and jerking of the muscles of the face during sleep. Dose, every hour. When there is at the same time fever, the *aconite* may

be given alternately with the *chamomilla*. Doses an hour apart.

Ipecac, alternately with *belladonna*, when, with the symptoms calling for *belladonna*, there are also nausea and vomiting. Doses an hour apart.

Hot water—When the mouth seems hot and the gums highly inflamed, relief may be obtained somewhat by washing and rubbing them with this article.

TOOTHACHE.

Belladonna is the first remedy to be employed for this. Give it every hour.

Mercurius vivus is the best when there are heat and soreness about the root of the tooth, great pain, swelling of the gums, worse at night and during rainy weather. Dose every two hours.

This remedy, in alternation with *belladonna*, will give relief in five cases out of six of toothache. Doses one hour apart.

Nux vomica is best when the ache has been induced by coffee, green tea, alcoholic drinks or mental labor. Dose every two hours.

Pulsatilla, for toothache, when the pain extends to the eyes or ears; or, in females, during the menstrual period or pregnancy.

SORE THROAT.

When there are difficulty in swallowing and soreness of the throat, it is not easy to anticipate the disease, of which these may be the first symptoms: it may be quinsy, malignant sore throat or scarlatina. It is, therefore, well to act both wisely and promptly in the use of

remedies. Open the mouth widely, pressing the tongue down with a spoon, and examine the appearance of the throat.

The appropriate remedies are *capsicum*, when the tonsils, palate and surrounding parts are very purple or red, swollen, sore and burning, swallowing and even talking difficult; or when the tongue is sore, red, swollen and even protruding between the teeth, and there are headache and dizziness. Give a dose every hour.

Belladonna, when the *capsicum* does not afford relief, and particularly if the head is very bad, with flushed face, or if you apprehend scarlet fever. Dose every two hours.

Mercurius vivus when the palate and tonsils are much swollen, their color pale-red, the palate appearing lengthened, and the throat filling with mucus, constant desire to swallow, or when there are small, yellow, smarting ulcers on the tonsils or parts near them, with unnatural flow of saliva in the mouth. Dose every four hours.

Arsenicum when, with ulcers in the throat, there is great burning, a discharge of grayish or greenish matter, or a feeling of great prostration. Give a dose every eight hours, with a dose of *capsicum* between times.

Just before giving a dose of medicine in this disease, gargle the throat with hot water. The greater the heat of the throat, the warmer the water should be. In inflamed throats, cold drinks are bad.

WHITES, OR LEUCORRHEA.

Pulsatilla should be given when the discharge is white and thick, or watery with pain and burning. Dose every night for a week; then give *sulphur* alternately with it

once a day, gradually lengthening the intervals to two or three days.

Sepia—When the discharge is yellowish-green, and is attended with itching or smarting, and pains in the abdomen, give this remedy every night.

Follow *sepia* with *lycopodium* in such cases, after two or three weeks, and give in like manner.

Calcareo carbonia—If the discharge is bloody and thin, or worse before the menses, and if there are pain, soreness and itching, give a dose of this remedy every night for a week, after which give it every other night.

In cases of great debility from profuse discharge, give a dose of *china* in the morning.

Cannabis sativa—Give this remedy in case of whitish discharge of young girls. Dose twice a day for twenty days; then give a dose of *calcareo carbonia* once a week. Wash the external organs with tepid water every three or four days.

In this disease very light diet should be employed.

FALLING OF THE WOMB.

Nuxvomica—Give this remedy when the affection follows confinement. Dose every night.

The patient should keep the horizontal position until she is relieved.

In nearly all cases of this disease commence the treatment with this remedy. Dose every night.

Calcareo carbonia—When the menses are frequent or profuse, give a dose of this remedy every third morning, in connection with *nuxvomica*, but if they are natural or scanty, give a dose of *sepia* in place of *calcareo carbonia*. After giving the above remedies for four weeks, if the patient is not relieved, omit the *nuxvomica* and

give *belladonna* every night and *sepia* once a week, in the morning.

After three weeks, *nux vomica* can be given again, if necessary, after which, if the patient should not be cured, consult a larger treatise on this subject, or a Homœopathic physician.

LONG ROUND WORMS.

China—Give this remedy every morning until the symptoms are relieved, also give *mercurius vivus* every night for one week, after which give a dose of *sulphur* once a week for several weeks.

Treatment for tapeworm—Make a strong tea of pumpkin-seeds, by bruising a tablespoonful or more and steeping them, and drink half the tea at night and the other half in the morning, and repeat for three or four days, and also take for a couple of months *mercurius vivus* and *sulphur*, one week apart.

The patient should eat no pork, nor raw or imperfectly cooked meats of any kind. Persons troubled with worms of any species, should abstain from candies, pies, cakes, coffee and much sweet food.

PIN-WORMS.

Aconite should be given, if there is intense itching on going to bed, with heat and restlessness. Dose an hour or two before retiring. If the patient, after retiring to bed, does not soon fall asleep, but remains nervous, give a dose of *ignatia*. These remedies are given more for the purpose of palliating the symptoms for the time being than otherwise. To effect a cure, give *sulphur*

every morning for a week. It will be better to give the *sulphur* at night, unless the symptoms are so severe as to require *aconite* at night. After giving *sulphur* for a week, then omit and give *calcareo carbonia* for a week, then omit it and give *china* for a week, then discontinue all remedies for a week, after which give in rotation a single dose of the above remedies, at intervals of one week. It would be well to continue them for months, as it will eradicate all constitutional predisposition, on which the existence of these worms depends.

A small injection of sweet-oil may be given every night for two or three weeks. For dose, see "Introductory Rules."

DIVISION EIGHTH.

DOMESTIC ANIMALS.

HORSES.

The reader will find the remedies here given very different from those in other treatises on this subject, being as they are, simple and easily to be obtained, and usually at hand. They have been selected with much care, and from every available source, whence they could be obtained.

THE SECRET OF SUBDUING WILD HORSES AND OTHER WILD ANIMALS.

This wonderful art, founded upon a system of philosophy, is infallible and universal in its application, and extends to all the animal kingdom. In regard to the horse, it consists in convincing him that you are his superior, and you have absolute power over him. This system is somewhat akin to animal magnetism in its effect, but the process is widely different.

The process of taming a very wild horse which

was never handled consists in a method which has been for some time employed, first charming him by a powder, which is obtained by taking the button from the horse's knee; by which I mean the horny substance growing on the inside, or rather on the back part of a horse's legs, below the knee behind, and above it before. Dry this substance and pulverize it; put a small quantity into a quill and blow it into his nostrils; in a few minutes it will operate and cause him to follow you or permit you to handle his feet, or get upon his back. Thus, with perfect ease, may a wild and vicious animal become gentle and harmless; so, at least, it is said.

By thus proceeding gently, you may handle his feet and legs in any way you choose.

However wild and fractious a horse may be naturally, after practicing this process a few times, you will find him perfectly gentle and submissive and even disposed to follow you anywhere and unwilling to leave you on any occasion.

Unless the horse be wild, the first treatment will be all-sufficient; but should he be too fractious to be approached in a manner necessary to perform the first named operation, this you will find effectual, and you may then train your horse to harness or anything else with the utmost ease.

In breaking horses for harness, after giving the powders, put the harness on gently, without startling him, and pat him gently, then fasten *the chain* to a log, which he will draw for an indefinite length of time. When you find him sufficiently gentle, place him to a wagon or other vehicle.

Note—Be *extremely* careful in catching a horse, not to affright him. After he is caught and the powders given, rub him gently on the head, neck, back and legs and on each side of the eyes the way the hair lies, but

be very careful not to whip, for a young horse is equally passionate with yourself, and this pernicious practice has ruined many fine and valuable horses. When you are riding a colt (or even an old horse), do not whip him if he scares, but draw the bridle so that his eye may rest upon the object which has affrighted him and pat him upon the neck as you approach it. By this means you will pacify him and render him less liable to start in future.

Means of teaching a horse to pace—Buckle a four-pound weight around the ankles of his hind legs (lead is preferable), ride your horse briskly with these weights upon his ankles, at the same time twitching each rein of the bridle alternately. By this means you will immediately throw him into a pace. After you have trained him in this way to some extent, change your leaded weights for something lighter—leather padding or something equal to it will answer the purpose—let him wear these light weights until he is perfectly trained. This process will make a smooth and easy pacer of any horse.

TO BREAK A HORSE OF SCARING.

Turn your horse into the barn-yard, or a large stable will do, and then gather up something that you know will frighten him—a red blanket, a buffalo-robe or something of that kind. Hold it up so that he can see it. He will stick up his head and snort. Then throw it down somewhere in the centre of the lot or barn and walk off to one side. If he is frightened at the object, he will not rest until he has touched it with his nose. You will see him begin to walk around the robe and snort, all the time getting a little closer, as if drawn up by some

magic spell, until he finally gets within reach of it. He will then very cautiously stretch out his neck as far as he can reach, merely touching it with his nose, as though he thought it was ready to fly at him. But after he has repeated these touches a few times (though he has been looking at it from the first), he seems to have an idea what it is. And after he has found, by the sense of feeling, that it is nothing that will do him any harm, he is ready to play with it; and should he run in that lot a few days, the robe that frightened him so much at first, will be no more to him than a familiar stump.

HOW TO MANAGE A STUBBORN HORSE.

If your horse, instead of being wild, seems to be of a stubborn or *mulish* disposition, if he lays back his ears as you approach him or turns his heels to kick you, he has not that regard or fear of man that he should have to enable you to handle him quickly and easily, and it might be well to give him a few sharp cuts with the whip about the legs, pretty close to the body. It will crack keenly as it plies around his legs, and the crack of the whip will affect him as much as the stroke; besides one sharp cut about his legs will affect him more than two or three over his back, the skin on the inner part of his legs or about his flanks being thinner and more tender than on his back. But do not whip him much—just enough to scare him. It is not because we want to hurt the horse that we whip him. We only do it to scare that bad disposition out of him. But whatever you do, do quickly, sharply and with a good deal of fire, but always without anger. If you are going to scare him at all, you must do it at once. Never go into a pitched battle with your horse and whip him till he is mad and will fight you.

You had better not touch him at all, for you will establish, instead of fear and regard, feelings of resentment, hatred and ill-will. It will do him no good, but an injury, to strike a blow, unless you can scare him; but if you succeed in scaring him, you can whip him without making him mad, for fear and anger never exist together in the horse, and as soon as one is visible, you will find that the other has disappeared. As soon as you have frightened him so that he will stand up straight and pay some attention to you, approach him again and caress him a good deal more than you whipped him; then you will excite the two controlling passions of his nature, love and fear, and then he will fear and love you too, and as soon as he learns what to do, will quickly obey.

HALTERING THE COLT.

As soon as you have gentled the colt a little, take the halter in your left hand and approach him as before, and on the same side on which you have gentled him. If he is very timid about your approaching closely to him, you can get up to him quicker by making the whip a part of your arm, and reaching out very gently with the butt-end of it, rubbing him lightly on the neck, all the time getting a little closer, shortening the whip by taking it up in your hand until you finally get close enough to put your hands on him. If he is inclined to hold his head from you, put the end of the halter strap around his neck, drop your whip, and draw very gently; he will let his neck give, and you can pull his head to you. Then take hold of that part of the halter which buckles over the top of his head, and pass the long side, or that part which goes into the buckle, under his neck, grasping it on the opposite side with your right hand, letting the first strap

loose; the latter will be sufficient to hold his head to you. Lower the halter a little, just enough to get his nose into that part which goes around it, then raise it somewhat and fasten the top buckle, and you will have it all right. The first time you halter a colt you should stand on the left side, pretty well back to his shoulder, only taking hold of that part of the halter that goes around his neck; then with your hands about his neck you can hold his head to you, and raise the halter on it without making him dodge by putting your hands about his nose. You should have a long rope or strap ready, and as soon as you have the halter on, attach this to it, so that you can let him walk the length of the stable without letting go of the strap, or without making him pull on the halter; for if you only let him feel the weight of your hand on the halter, and give him rope when he runs from you he will never rear, pull or throw himself, yet you will be holding him all the time and doing more towards gentling him than if you had the power to curb him right up and hold him to one spot; because he does not know anything about his strength, and if you don't do anything to make him pull, he will never know that he can. In a few minutes you can begin to control him with the halter; then shorten the distance between yourself and the horse, by taking up the strap in your hand.

As soon as he will allow you to hold him by a tolerably short strap, and step up to him without flying back, you can begin to give him some idea about leading. But to do this do not go before and attempt to pull him after you, but commence by pulling him very quietly to one side. He has nothing to brace either side of his neck, and will soon yield to a steady, gradual pull of the halter; and as soon as you have pulled him a step or two to one side, step up to him and caress him, and then pull him again, repeating this operation until you can pull

him around in every direction, and walk about the stable with him, which you can do in a few minutes; for he will soon think, when you have made him step to the right or left a few times, that he is compelled to follow the pull of the halter, not knowing that he has the power to resist your pulling; besides, you have handled him so gently that he is not afraid of you, and you always caress him when he comes up to you, and he likes that and would just as lief follow you as not. And after he has had a few lessons of that kind, if you turn him out in a lot he will come to you every opportunity he gets. You should lead him about in the stable some time before you take him out, opening the door so that he can see out, leading him up to it and back again, and past it. See that there is nothing on the outside to make him jump when you take him out, and as you go out with him try to make him go very slowly, catching hold of the halter close to the jaw, with your left hand, while the right is resting on the top of the neck, holding to his mane. After you are out with him a little while, you can lead him about as you please. Don't let any second person come up to you when you first take him out; a stranger taking hold of the halter would frighten him and make him run. There should not be even any one standing near him, to attract his attention or scare him. If you are alone and manage him right, it will not require any more force to lead or hold him than it would to manage a broken horse.

PULLING ON THE HALTER.

You should lead a broken horse into the stable first, and get the colt, if you can, to follow in after him. If he refuses to go, step up to him, taking a little stick or switch in your right hand; then take hold of the halter

close to his head with your left hand, at the same time reaching over his back with your right arm, so that you can tap him on the opposite side with your switch; bring him up facing the door, tap him lightly with your switch, reaching as far back with it as you can. This tapping, by being pretty well back and on the opposite side, will drive him ahead and keep him close to you; then, by giving him the right direction with your left hand, you can walk into the stable with him. I have, says a noted horse-farrier, led colts into the stable in this way in less than a minute, after men had worked at them half an hour, trying to pull them in. If you cannot lead him in at once in this way, turn him about and walk him around in every direction until you can get him up to the door without pulling at him. Then let him stand a few minutes, keeping his head in the right direction with the halter, and he will walk in in less than ten minutes. Never attempt to pull the colt into the stable; that would make him think at once that it was a dangerous place, and if he was not afraid of it before, he would be then.

Besides, we don't want him to know any thing about pulling on the halter. Colts are often hurt, and sometimes killed, by trying to force them into the stable; and those who attempt to do it in that way, go into an up-hill business, when a plain, smooth road is before them.

If you want to hitch your colt, put him in a tolerably wide stall; which should not be too long, and should be connected by a bar or something of that kind to the partition behind it; so that, after the colt is in he cannot get far enough back to take a straight, backward pull on the halter; then, by hitching him in the centre of the stall, it would be impossible for him to pull on the halter, the partition behind preventing him from going

back, and the halter in the centre checking him every time he turns to the left or right. In a stall of this kind you can break every horse to stand hitched by a light strap, any where, without his ever knowing any thing about pulling. But if you have broken your horse to lead, and have taught him the use of the halter (which you should always do before you hitch him to any thing), you can hitch him in any kind of a stall, and give him something to eat to keep him up to his place for a few minutes at first, and there is not one colt in fifty that will pull on his halter.

Another Method—First, buckle a strap around the left foreleg of the animal, just above the knee; then pass the halter-strap, through the hole in the manger and make it fast to the strap around the foreleg. As the horse pulls back, it pulls his foreleg forward; and no horse will enjoy breaking his halter at the expense of his leg. A few trials will effectually cure him.

TO MAKE THE COLT TAKE KINDLY TO THE BIT.

You should use a large, smooth, snaffle-bit, so as not to hurt his mouth, with a bar on each side to prevent the bit from pulling through either way. This you should attach to the head-stall of your bridle and put it on your colt without any reins to it, and let him run loose in a large stable or shed some time, until he has become a little used to the bit and will bear it without trying to get it out of his mouth. It would be well, if convenient, to repeat this several times before you do anything more with the colt; as soon as he will bear the bit, attach a single rein to it, without any martingale. You should also have a halter on your colt, or a bridle made after the

fashion of a halter, with a strap to it, so that you can hold or lead him without pulling on the bit much. He is now ready for the saddle.

SADDLING.

Any one man who has this theory, can put a saddle on the wildest colt that ever grew, without any help and without scaring him. The first thing will be to tie each stirrup-strap into a loose knot, to make them short and prevent the stirrups from flying about and hitting him. Then double up the skirts and take the saddle under your right arm, so as not to frighten him with it as you approach. When you get to him rub him gently a few times with your hand, and then raise the saddle very slowly until he can see it, and smell and feel it with his nose. Then let the skirts loose, and rub it very gently against his neck the way the hair lies, letting him hear the rattle of the skirts as he feels them against him; each time getting a little farther backward, and finally slip it over his shoulders on his back. Shake it a little with your hand, and in less than five minutes you can rattle it about over his back as much as you please, and pull it off and throw it on again without his paying much attention to it.

As soon as you have accustomed him to the saddle, fasten the girth. Be careful how you do this. It often frightens a colt when he feels the girth binding him and making the saddle fit tightly on his back. You should bring up the girth very gently and not draw it too tightly at first, just enough to hold the saddle on. Move him a little, and then gird it as tightly as you choose, and he will not mind it.

You should see that the pad of your saddle is all right

before you put it on, and that there is nothing to make it hurt him or feel unpleasant to his back. It should not have any loose straps on the back part of it to flap about and scare him. After you have saddled him in this way, take a switch in your right hand to tap him up with, and walk about in the stable a few times with your right arm over the saddle, taking hold of the reins on each side of his neck with your right and left hands: thus marching him about in the stable until you teach him the use of the bridle and can turn him about in any direction and stop him by a gentle pull of the rein. Always caress him and loose the reins a little every time you stop him.

You should always be alone and have your colt in some tight stable or shed the first time you ride him; the loft should be high so that you can sit on his back without endangering your head. You can teach him more in two hours' time in a stable of this kind than you could in two weeks in the common way of breaking colts, out in an open place. If you follow this course of treatment you need not run any risk or have any trouble in riding the worst kind of a horse. You take him a step at a time until you get up a mutual confidence and trust between yourself and horse. First teach him to lead and stand hitched, next acquaint him with the saddle and the use of the bit; and then all that remains is to get on him without scaring him, and you can ride him as well as any horse.

MOUNTING.

First, gentle him well on both sides about the saddle, and all over, until he will stand still without holding, and is not afraid to see you anywhere about him

As soon as you have him thus gentled, get a small

block about one foot or eighteen inches in height, and set it down by the side of him, about where you want to stand to mount him; step up on this, raising yourself very gently; horses notice every change of position very closely, and if you were to step up suddenly on the block it would be very apt to scare him; but by raising yourself gradually on it, he will see you without being frightened in a position very nearly the same as while you are on his back. As soon as he will bear this without alarm, untie the stirrup-strap next to you and put your left foot into the stirrup, and stand square over it, holding your knee against the horse and your toe out, so as to touch him under the shoulder with the toe of your boot. Place your right hand on the front of the saddle and on the opposite side to you, taking hold of a portion of the mane and the reins as they hang loosely over his neck with your left hand, then gradually bear your weight on the stirrup and on your right hand until the horse feels your whole weight on the saddle; repeat this several times, each time raising yourself a little higher from the block, until he will allow you to raise your leg over his croup and place yourself in the saddle.

There are three great advantages in having a block to mount from. First, a sudden change of position is very apt to frighten a young horse that has never been handled; he will allow you to walk up to him and stand by his side without scaring at you, because you have gentled him to that position; but if you get down on your hands and knees and crawl towards him he will be very much frightened; and, upon the same principle, he would be frightened at your new position if you had the power to hold yourself over his back without touching him. Then the first great advantage of the block is to gradually gentle him to that new position in which he will see you when you ride him.

Secondly, by the process of leaning your weight in the stirrup and on your hand you can gradually accustom him to your weight, so as not to frighten him by having him feel it all at once.

And, in the third place, the block elevates you so that you will not have to make a spring in order to get on the horse's back, but from it you can gradually raise yourself into the saddle. When you take these precautions there is no horse so wild but what you can mount him without making him jump. When mounting, your horse should always stand without being held. A horse is never well broken when he has to be held with a tight rein while mounting; and a colt is never so safe to mount as when you see that assurance of confidence and absence of fear which cause him to stand without holding.

RIDING.

When you want him to start do not touch him on the side with your heel, or do anything to frighten him and make him jump, but speak to him kindly, and if he does not start, pull him a little to the left until he starts, and then let him walk off slowly with the reins loose. Walk him around in the stable a few times until he gets used to the bit, and you can turn him about in every direction and stop him as you please. It would be well to get on and off a good many times until he gets perfectly used to it before you take him out of the stable.

After you have trained him in this way, which should not take you more than one or two hours, you can ride him anywhere you choose without ever having him jump or make any effort to throw you.

When you first take him out of the stable be very gentle with him, as he will feel a little more at liberty to

jump or run, and be a little more easily frightened than he was while in the stable.

But after handling him so much in the stable he will be pretty well broken, and you will be able to manage him without trouble or danger.

When you first mount him take a little the shorter hold on the left rein, so that if anything frightens him you can prevent him from jumping by pulling his head around to you. This operation of pulling a horse's head around against his side will prevent any horse from jumping ahead, rearing up or running away. If he is stubborn and will not go, you can make him move by pulling his head around to one side, when whipping will have no effect. And turning him around a few times will make him dizzy, and then, by letting him have his head straight and giving him a little touch with the whip, he will go along without any trouble.

Never use martingales on a colt when you first ride him; every movement of the hand should go right to the bit in the direction in which it is applied to the reins, without a martingal to change the direction of the force applied. You can guide the colt much better without them, and teach him the use of the bit in much less time. Besides, martingales would prevent you from pulling his head around if he should try to jump.

After your colt has been ridden until he is gentle and well accustomed to the bit, you may find it an advantage, if he carries his head too high, or his nose too far out, to put martingales on him.

You should be careful not to ride your colt so far at first as to heat, worry or tire him. Get off as soon as you see he is a little fatigued; gentle him and let him rest; this will make him kind to you and prevent him from getting stubborn or mad.

BITTING.

Farmers often put biting-harness on a colt the first thing they do to him, buckling up the biting as tight as they can draw it, to make him carry his head high, and then turn him out in a lot to run a half-day at a time. This is one of the worst punishments that they could inflict on the colt, and very injurious to a young horse that has been used to running in pasture with his head down. Colts are often so injured in this way that they never get over it.

A horse should be well accustomed to the bit before you put on the biting-harness, and when you first bit him you should only rein his head up to that point where he naturally holds it, let that be high or low; he will soon learn that he cannot lower his head, and that raising it a little will loosen the bit in his mouth. This will give him the idea of raising his head to loosen the bit, and then you can draw the biting a little tighter every time you put it on, and he will still raise his head to loosen it. By this means you will gradually get his head and neck in the position you want him to carry them, and give him a nice and graceful carriage without hurting him, making him mad, or causing his mouth to get sore.

If you put the biting on very tight the first time, he cannot raise his head enough to loosen it, but will bear on it all the time and paw, sweat and throw himself. Many horses have been killed by falling backwards with the biting on: their heads being drawn up, strike the ground with the whole weight of the body. Horses that have their heads drawn up tightly should not have the biting on more than fifteen or twenty minutes at a time.

DRIVING A WILD AND VICIOUS HORSE.

Take up one fore-foot and bend his knee till his hoof is bottom upwards and nearly touching his body, then slip a loop over his knee and up until it comes above the pasture-joint to keep it up, being careful to draw the loop together between the hoof and pasture-joint, with a second strap of some kind to prevent the loop from slipping down and coming off. There is something in this operation of taking up one foot that conquers a horse quicker and better than anything else you can do to him. There is no process in the world equal to it to break a kicking horse. When you first fasten up a horse's foot he will sometimes get very mad and strike with his knee and try every possible way to get it down, but he cannot do that and will soon give it up. When you find that he is conquered, go to him, let down his foot, rub his leg with your hand, caress him and let him rest a little, then put it up again. Repeat this a few times, always putting up the same foot, and he will soon learn to travel on three legs so that you can drive him some distance. As soon as he gets a little used to this way of traveling, put on your harness and hitch him to a sulky. If he is the worst kicking horse that ever raised a foot, you need not be fearful of his doing any damage while he has one foot up, for he cannot kick, neither can he run fast enough to do any harm. And if he is the wildest horse that ever had harness on and has run away every time he has been hitched, you can now hitch him in a sulky and drive him as you please. Thus you will effectually cure him at once of any further notion of running off. Kicking horses have always been the dread of everybody; you always hear men say when

they speak about a bad horse, "I don't care what he does, so he don't kick." This method is an effectual cure for this worst of all habits. There are plenty of ways by which you can hitch a kicking horse and force him to go, though he kicks all the time; but this don't have any good effect towards breaking him, for we know that horses kick because they are afraid of what is behind them, and when they kick against it and it hurts them, they will only kick the harder, and this will hurt them still more and make them remember the scrape much longer, and make it more difficult to persuade them to have any confidence in anything dragging behind them ever after.

But by this new method you can hitch them to a rattling sulky, plow, wagon, or anything else in its worst shape. They may be frightened at first, but cannot kick or do anything to hurt themselves, and will soon find that you do not intend to hurt them, and then they will not care anything more about it. You can then let down the leg and drive along gently without any further trouble. By this process a bad kicking horse can be taught to go gently in harness in a few hours' time.

TO CURE BALKY HORSES.

Horses know nothing about balking, only as they are brought into it by improper management; and when a horse balks in harness, it is generally from some mismanagement, excitement, confusion, or from not knowing how to pull, but seldom from any unwillingness to perform all that he understands. High-spirited, free-going horses are the most subject to balking, and only so because drivers do not understand how to manage this kind. A free horse in a team may be so anxious to

go, that when he hears the word, he will start with a jump, which will not move the load, but give him such a severe jerk on the shoulders, that he will fly back and stop the other horse; the teamster will continue his driving without any cessation, and by the time he has the slow horse started again, he will find that the free horse has made another jump, and again flown back; and now he has them both badly balked, and so confused that neither of them knows what is the matter, or how to start the load.

Next will come the slashing and cracking of the whip, and hallooming of the driver, till something is broken, or he is through with his course of treatment. But what a mistake the driver makes by whipping his horse for this act! Reason and common sense should teach him that the horse was willing to go, but did not know how to start the load. And should he whip him for that? If so, he should whip him again for not knowing how to talk. A man that wants to act with any rationality or reason should not fly into a passion, but should always think before he strikes. It takes a steady pressure against the collar to move a load, and you can not expect him to act with a steady, determined purpose, while you are whipping him. There is hardly one balking horse in five hundred, that will pull true from whipping; it is only adding fuel to the fire, and will make him more liable to balk another time. You always see horses that have been balked a few times, turn their heads and look back, as soon as they are a little frustrated. This is because they have been whipped, and are afraid of what is behind them. This is an invariable rule with balked horses, just as much as it is for them to look around at their sides, when they have the bots; in either case they are deserving of the same sympathy and the same kind, rational treatment.

When your horse balks, or is a little excited, if he wants to start quickly, or looks around and don't want to go, there is something wrong, and it needs kind treatment immediately. Caress him kindly, and if he don't understand at once what you want him to do, he will not be so much excited as to jump and break things, and do everything wrong from fear. As long as you are calm and can keep down the excitement of the horse, there are ten chances to have him understand you, where there would not be one under harsh treatment; and then the little flare-up would not carry with it any unfavorable recollection, and he would soon forget all about it, and learn to pull true. Almost every wrong act the horse commits, is from mismanagement, fear or excitement; one harsh word will so excite a nervous horse as to increase his pulse ten beats in a minute.

When we remember that we are dealing with dumb brutes, and reflect how difficult it must be for them to understand our motions, signs and language, we should never get out of patience with them because they do not understand us, or wonder at their doing things wrong. With all our intellect, if we were placed in the horse's situation, it would be difficult for us to understand the driving of some foreigner, of foreign ways and foreign language. We should always recollect that our ways and language are just as foreign and unknown to the horse, as any language in the world is to us, and should try to practice what we could understand were we the horse, endeavoring by some simple means, to work on his understanding, rather than on the different parts of his body. All balked horses can be started truly and steadily in a few minutes' time; they are all willing to pull as soon as they know how, and I never yet found a balked horse that I could not teach to start his load in fifteen, and often in less than three minutes' time.

Almost any team, when first balked, will start kindly

if you let them stand five or ten minutes, as though there was nothing wrong, and then speak to them with a steady voice, and turn them a little to the right or left, so as to get them both in motion before they feel the pinch of the load. But if you want to start a team that you are not driving yourself, that has been balked, fooled and whipped for some time, go to them and hang the lines on their hames, or fasten them to the wagon, so that they will be perfectly loose; make the drivers and spectators (if there be any) stand off some distance to one side, so as not to attract the attention of the horses; unloose their check-reins, so that they can get their heads down if they choose; let them stand a few minutes in this condition, until you can see that they are a little composed. While they are standing you should be about their heads, gentling them; it will make them a little more kind, and the spectators will think that you are doing something that they do not understand, and will not learn the secret. When you have them ready to start, stand before them, and as you seldom have but one balky horse in a team, get as near in front of him as you can, and if he is too fast for the other horse, let his nose come against your breast; this will keep him steady, for he will go slow rather than run on you; turn them gently to the right, without letting them pull on the traces, as far as the tongue will let them go; stop them with a kind word, gentle them a little, and then turn them back to the left by the same process. You will have them under your control by this time, and as you turn them again to the right, steady them in the collar, and you can take them where you please.

There is a quicker process that will generally start a balky horse, but not so sure. Stand him a little ahead so that his shoulders will be against the collar, and then take up one of his fore feet in your hand, and let the

driver start them, and when the weight comes against his shoulders, he will try to step; then let him have his foot and he will go right along. If you want to break a horse from balking that has long been in that habit, you ought to set apart a half-day for that purpose. Put him by the side of some steady horse; have check-lines on them; tie up all the traces and straps, so that there will be nothing to excite them; do not rein them up, but let them have their heads loose. Walk them about together for some time as slowly and lazily as possible; stop often, and go up to your balky horse and gentle him. Do not take any whip about him, or do anything to excite him, but keep him just as quiet as you can. He will soon learn to start off at the word, and stop whenever you tell him.

As soon as he performs right, hitch him in an empty wagon; have it stand in a favorable position for starting. It would be well to shorten the stay-chain behind the steady horse, so that if it is necessary, he can take the weight of the wagon the first time you start them. Do not drive but a few rods at first; watch your balky horse closely and if you see that he is getting excited, stop him before he stops of his own accord; caress him a little and start again. As soon as they go well, drive them over a small hill a few times and then over a large one, occasionally adding a little load. This process will make any horse true to pull.

Other Methods—When a horse balks, take him out of the vehicle, one individual take him by the head and the other by the tail and whirl him around, holding him to the smallest possible circle, until he is giddy. Don't let him step out of the circle. The first operation is often effectual and the second will accomplish the desired result with the worst horse. Another means to make a horse go is to fill his mouth with gravel or dirt.

The philosophy of this is it gives him something else to think about. To attempt to force a horse, usually excites him to a more determined resistance. There are many men who do not know how to control themselves; hence they are not fit to control horses. The following is another means that has often proved effectual: Tie in the ear of the horse some substance, as a piece of wood or cob.

BREAKING TO HARNESS.

Take him in a tight stable, as you did to ride him, take the harness and go through the same process that you did with the saddle, until you get him familiar with it, so that you can put it on him and rattle it about without his caring for it. As soon as he will bear this, put on the lines, caress him as you draw them over him and drive him about in the stable till he will bear them over his hips. The lines are a great aggravation to some colts and often frighten them as much as if you were to raise a whip over them. As soon as he is familiar with the harness and lines, take him out and put him by the side of a gentle horse and go through the same process that you did with the balking horse. Always use a bridle without blinds when you are breaking a horse to harness.

TO MAKE A HORSE LIE DOWN.

Everything that we want to teach the horse must be commenced in some way to give him an idea of what you want him to do and then be repeated till he learns it perfectly. To make a horse lie down, bend his left fore leg and slip a loop over it, so that he cannot get it down.

Then put a surcingle around his body and fasten one end of a long strap around the other fore-leg, just above the hoof. Place the other end under the surcingle, so as to keep the strap in the right hand: stand on the left side of the horse, grasp the bit in your left hand, pull steadily on the strap with your right, bear against his shoulder till you cause him to move. As soon as he lifts his weight your pulling will raise the other foot and he will have to come on his knees. Keep the strap tight in your hand, so that he cannot straighten his leg if he raises up. Hold him in this position and turn his head toward you, bear against his side with your shoulder, not hard, but with a steady, equal pressure, and in about ten minutes he will lie down. As soon as he lies down he will be completely conquered and you can handle him as you please. Take off the straps and straighten out his legs, rub him lightly about the face and neck with your hand the way the hair lies, handle all his legs, and after he has lain ten or twenty minutes, let him get up again. After resting him a short time, make him lie down as before. Repeat the operation three or four times, which will be sufficient for one lesson. Give him two lessons a day, and when you have given him four lessons, he will lie down by taking hold of one foot. As soon as he is well broken to lie down in this way, tap him on the opposite leg with a stick when you take hold of his foot and in a few days he will lie down from the mere motion of the stick.

TO MAKE HIM FOLLOW.

Turn him into a large stable or shed, where there is no chance to get out, with a halter or bridle on. Go to him and gentle him a little, take hold of his halter and

turn him towards you, at the same time touching him lightly over the hips with a long whip. Lead him the length of the stable, rubbing him on the neck, saying in a steady tone of voice as you lead him, COME ALONG BOY! or use his name instead of boy if you choose. Every time you turn, touch him slightly with the whip, to make him step up close to you and then caress him with your hand. He will soon learn to hurry up to escape the whip and be caressed and you can make him follow you around without taking hold of the halter. If he should stop and turn from you, give him a few cuts about the hind legs and he will soon turn his head towards you, when you must always caress him. A few lessons of this kind will make him run after you when he sees the motion of the whip; in twenty or thirty minutes he will follow you about the stable. After you have given him two or three lessons in the stable, take him out into a small lot and train him, and from thence you can take him into the road and make him follow you anywhere and run after you.

TO MAKE HIM STAND WITHOUT HITCHING.

After you have him well broken to follow you, stand him in the center of the stable and begin at his head to caress him, gradually working backward. If he move, give him a cut with the whip and put him back in the same spot from which he started. If he stands, caress him as before and continue gentling him in this way until you can get round him without making him move. Keep walking around him, increasing your pace, and only touch him occasionally. Enlarge your circle as you walk around, and if he then moves, give him another cut with the whip and put him back to his place. If he

stands, go to him frequently and caress him, and then walk around him again. Do not keep him in one position too long at a time, but make him come to you occasionally and follow you around in the stable. Then stand him in another place and proceed as before. You should not train your horse more than half an hour at a time.

Horsemanship—The rider should, in the first place, let the horse know that he is not afraid of him. Before mounting a horse, take the rein into the left hand, draw it tightly, put the left foot in the stirrup and rise quickly. When you are seated, press your knees to the saddle, letting your leg from the knee stand out, turn your toe in and heel out, sit upright in your saddle, throw your weight forward—one-third of it in the stirrups—and hold your rein tight. Should your horse scare, you are braced in your saddle and he cannot throw you.

Indication of a horse's disposition—A long, thin neck indicates a good disposition; contrarywise, if it be short and thick. A broad forehead, high between the ears, indicates a very vicious disposition.

TO BREAK A HORSE FROM KICKING.

An old horse-trainer gives the following valuable directions:

“Take his tail, part it in the middle and tie a knot in it, and pass the halter-strap through the loop made in the tail by the knot, and make it fast so that the horse cannot go in any way except in a circle. Then take a pole and work it up and down his legs while he is circling in the ring. The object is to get him used to having his legs handled. Work him for about ten minutes in that position, and then let him brush about the size of a

common currant bush, tie this to his tail, so that it will drag on the ground, then whirl him for about fifteen minutes more, then put the harness on him: if he works all right, well and good; if he does not, go through the operation again.

Another way of breaking a kicker is with a small cord about twenty feet long and about three-eighths of an inch thick. Pass it over the horse's neck, putting the center of the cord on the horse's withers and crossing the cord in the horse's mouth, then bring it back to the hind legs, making it fast by buckling a leather strap around the legs, between the pastern and the coronal joint. Then fasten your line in the cord that is on the horse's neck, stand off and start him, when he makes an attempt to kick, the cord draws and hurts his mouth, and as a horse can think of but one thing at a time, he thinks of his mouth and forgets to kick. This plan is almost sure to break him, as I never knew a horse to kick more than three to five times with this training."

CRIBBING OR BITING.

Where there is any chance for the horse to bite, nail sheep-skin with the wool side up. Those who have tried it say this will break the horse of this habit.

Another is to keep a wire-muzzle on his head continually, only removing it at meal-times, adjusting it again immediately after he has finished his meal. Another way may be adopted as a preventive; remove the manger entirely and feed his hay from the floor and his grain from a nose bag, and nail sheet-iron or zinc, full width, commencing two feet six inches from the floor; let it extend upwards and around the partition walls of his stall. This will prevent him from fastening his teeth on any

object that will allow him to crib. Ordinary care and judgment with regard to food and treatment is all that is necessary in these cases of crib-biting.

HOW TO BREAK A HALTER-CHEWER.

This may be done by making a strong solution of Cayenne pepper, and soaking the halter in it. The animal will soon learn not to chew this kind of a halter.

TO BREAK A HORSE OF FORGING.

Great benefit is derived by making the shoe thin at the heel, almost as thin as a knife blade, and then putting a piece of steel on the toe of the shoe; this raises the foot and causes it to go over the fore foot instead of striking it.

ANOTHER—Set the toes of the hind shoes back about three quarters of an inch from the margin of the toe of the foot. This will remedy the difficulty.

TO CATCH A HORSE IN A PASTURE.

The most successful method, if the horse has a trick of refusing to be caught, is to turn him into the smallest lot you have, so that when he runs from you he must circle about this small enclosure. Walk slowly around in the centre of the lot, following the motions of the horse, until he stops, and then go up to him and caress him, always speaking kindly to him. Keep this up until he will allow you to approach him without shying or running. A few lessons of this sort will entirely correct his bad habit, which proceeded entirely from fear, and he will soon follow you like a dog.

TO TEST HORSES' EYES.

Look at the eye when the horse is in a dark stable; then turn him about to a strong light; and if you observe that the pupil contracts and appears much smaller than in the first instance, you may infer that he has a good strong eye; but if the pupil remains nearly of the same size in both cases, his eyes are weak, and you had better have nothing to do with him.

HORSE-SHOEING.

It is necessary, when the horse is taken to the shop to be shod, that his foot should be trimmed perfectly even and level: if the toe is trimmed down, so should the heel be; as it is important that the bottom of the foot should be level. As the frog is shed every three months, it should never be touched; it acts as a sort of natural sponge, gathering from the ground, which it should touch, the moisture required to keep the foot healthy. The shoe should be fitted to the foot, and not the foot to the shoe. The shoe should come up close to the frog, in order to protect the heel. The nail-holes should be very close to the toe. There should be three nails on the inside, and four on the outside of the foot. The shoes should never have corks, unless for heavy draught-horses. Corks should never be put on shoes without toes, as this destroys the foot's level. The nails should never be twisted off, but cut off with the pincers after being turned up, and as little enamel as possible should be rasped off the front of the foot.

TO BREAK A HORSE OF JUMPING.

Sew a strap of leather one and one-half or two inches broad to the head-stall, so that it will pass directly across the eyes of the horse. Split the leather into four or five strips. It must be so arranged that when he raises his head to jump these strips will come directly over his eyes creating thereby the appearance of fence-rails; and he will at once desist from jumping any fence.

BREEDING.

To make a mare breed, first let the horse cover, then give one-third of a pint of wheat every day for eighteen days, and let the horse cover again.

FLIES ON HORSES.

Make a decoction of walnut-leaves, moisten a sponge with it, and rub about the ears, neck, flanks, etc. This will prevent a horse from being teased by flies.

Smart-weed has also been recommended by soaking the weed over night and applying it to the horse in the morning with a sponge.

TO REMOVE LICE.

Wash the animal thoroughly with sour buttermilk. It destroys the vermin and does not injure the horse.

HOW TO TELL WHEN A MARE IS WITH FOAL.

If the mare is in foal the teats and cords under the tongue are red. If not they are pale.

TO PREVENT SNOW-BALLING.

Clean the hoofs well, then rub thoroughly with thick soapsuds before going out in the snow.

TO EXTRICATE HORSES FROM FIRE.

Put the harness on a draught-horse, or the saddle on a saddle-horse, and they may be led without difficulty.

SADDLE-GALLS.

To prevent saddle-galls the saddle should be lined with some smooth, hard substance. Flannel or woolen cloth is bad. A hard-finished, smooth, rawhide lining, similar to those of the military saddles, is preferable. Then, if the saddle is properly fitted to the horse's back, there will be no galls unless the horse is very hardly used. Galls should be washed with soap and water, and then with a solution of three grains of copperas or blue vitriol to one tablespoonful of water, which will harden the surface and help to restore the growth of the skin. White hairs growing upon galled spots cannot be prevented.

TREAT ANIMALS KINDLY.

Domestic animals of all kinds should be treated with gentleness and mildness; men or boys who are rash and

bad-tempered, ought not to be permitted to have charge of them. Animals that are kept in constant fear of suffering never thrive well, and they often become vicious and intractable by unkind and cruel treatment.

HEALTH OF ANIMALS.

All domestic animals should be abundantly furnished with salt. Horses and pigs should occasionally have ashes given them in their food; and pigs ought at all times, when confined in pens, to be supplied with charcoal, as, besides being a medicine, it is a cheap and valuable food.

PROPER TIME FOR BLANKETING HORSES.

When a horse becomes heated by exercise, he should stand uncovered for a few minutes—a longer or shorter period, according to the circumstances, until cooled down to about the ordinary temperature, but not to any degree toward chilliness; then throw on the blanket; otherwise if it is put on when he is very warm, the vapor steams up from his hot sides, becomes condensed and wets the blanket; and as the horse continues to cool, the cold and wet covering is of but little use.

TO DESIGNATE BETWEEN SHOULDER AND FOOT LAMENESS.

Take the animal by the bridle-bits and back him; if the lameness is in the shoulder, he will drag his foot as he backs; but if it is in the foot, he will lift it up from the ground as he moves.

Another way to locate lameness, is by the motions of

the horse when in a brisk trot; when he is lame below the knee, he will bow his head downward, and when lame above the knee, he nods his head upward.

This is a reliable guide.

HOW A BOY MAY DRENCH A HORSE.

The old method of drenching is difficult, absurd and unnatural, and often attended with bad effects which prove in the end worse than the disease for which you wish to drench.

The following is a new and better way, which even a child may practice: Standing on the right side of the horse, with the bridle in his left hand, keeping the horse's head down in its natural position, let him introduce the end of a long-necked bottle, containing the medicine, into the side of the horse's mouth, and pour out the medicine only as fast as the horse will lap and swallow it. This method is invaluable to those who have horses to drench.

TO BREAK A HORSE THAT INTERFERES.

Buckle around leather roll, stuffed with cotton, between the pastern joint and the hoof; buckle it so the ends of the roll will come close together. This roll strikes the opposite foot, and will cause the horse to place his foot in a different position when he steps.

In case "interfering pads," if used at any time, should rub the legs of the horse and make them sore, the following mode of shoeing will in most cases obviate the difficulty: For the hind feet have the shoes made one pound weight on outside and four ounces weight on inside. Pare the feet slightly, the lower on the outside,

leaving them the higher on the inside bar and quarter. Set the inside quarter of the shoes a trifle inside of the walls of the feet. Make the forward shoes light, with both bars of the shoe equal in weight and thickness. Pare the forward feet in the same way as above described for the hind feet, and fit the forward shoes close. If it is possible to stop the interfering by means of shoeing, the way herein described will be found efficacious.

HOW TO FATTEN HORSES.

If a horse is poor and you find it difficult to fatten him, or if it is desirable to fatten a horse rapidly, change your feed; if his feed has been unground, change to ground feed. To one bushel each of corn, oats and barley-meal, add one-fourth of an oil-cake. Feed two or three-quarts of this mixture three times a day, with about a peck of cut hay and straw; and increase the allowance a little every day, so long as the horse will eat it up clean. But always avoid the practice of letting a horse stand at a rack filled with hay. In order to readily fatten a horse, feed him no more than he will eat up clean and lick his manger for more.

If the oil-cake above spoken of cannot be obtained, then mix a bushel of flaxseed with one of barley, one of oats and another of Indian-corn; have them ground into meal, and use as above directed.

THE AGE OF A HORSE.

A colt sheds two teeth above and below at two; one on each side, above and below at three; and corner ones at four; at five the teeth have grown up on the outside, but the corner teeth have not grown up on the in-

side ; at six the center teeth below are smooth ; at seven one on each side ; at eight all smooth below ; at nine the center teeth above are smooth ; at ten one on each side ; at eleven all smooth above and below ; at twelve a small white spot comes in the nose as big as the head of a pin ; at thirteen it is half as large as half a pea ; at fourteen it is as large as half a pea, and round, after it sprangles. At fourteen the ossification of the suture of the skull begins, and has a continuous growth of one inch each year until death.

PULLING BACK.

A horse may be thoroughly broken of this very disagreeable and annoying habit by the following means :

1. Place on his head a strong leather head-stall halter, with iron rings strongly sewed at the junction of the cheek-pieces and nose-band.

2. Have a strong surcingle made out of wide webbing cloth or leather, on each side of which in a line with the base of the tail where the croup-strap comes, sew two iron rings.

3. Take a stout piece of marlin, such as is used by the riggers of vessels, sufficient in length to secure one end firmly to the ring on the off or right-hand side of the halter ; pass back through the ring sewed in the surcingle on the same side, thence under the tail and forward on the left side through the ring sewed on the near or left-hand side of the surcingle ; also through the ring sewed on the same or near side of the cheek-piece and nose-band of the halter. Then tie this end of the marlin to the ring used for tying the animal in the stall. Oil the marlin well before using, in order that it may readily pass through the rings. This will prove an efficacious remedy, and at the same time a perfectly harmless one to the animal.

DISEASES OF HORSES.

BIG HEAD OR BIG SHOULDER.

Take of powdered gentian, - - 4 drachms.
 " " phosphate of iron, . - 2 "
 " " linseed cake, - - - 4 pounds.

Give the whole of this quantity in the horse's feed, every twenty-four hours, until relief is perceptible; then give about one-fourth the quantity.

Feed no corn, and the hay and oats should be perfectly sound. Every effort should be made to restore the general health of the horse. He may be worked regularly, but *moderately*. The stable should be well ventilated, dry and clean.

BIG HEAD.

Linseed oil, - - - - - 1 pt.
 Oil of spike, - - - - - 1 oz.
 Turpentine, - - - - - 2 oz.
 Pulverized cantharides, - - - - - 1 dr.

Apply to the affected parts, heating with a hot iron, for three days; then grease for three, wash off and apply as before.

BRUISES AND SPRAINS.

Apply twice a day a strong decoction of wormwood, made with hot vinegar, and it will be found to surpass

in efficacy any liniment that can be obtained for bruises and sprains.

BOTS.

1. Dissolve a lump of alum the size of a walnut in a pint of water and give immediately. It is seldom that half an hour will elapse before the horse will be relieved. It may, in some cases, be necessary to repeat the dose.

2. Give one pint of milk and one of molasses, followed by a dose of castor-oil (eight or ten tablespoonfuls). This is an old remedy, but often efficacious.

3. Take of linseed-oil,	-	-	-	-	1 quart.
Molasses,	-	-	-	-	1 "
New milk,	-	-	-	-	2 "
Warm sage-tea,	-	-	-	-	2 "

Give as follows: Fifteen minutes after giving the milk and molasses, give the sage-tea, and half an hour after this, give the linseed-oil. Lard is sometimes given in place of the oil.

4. One pint of linseed-oil with one ounce of chloroform. Give as a drench.

The linseed-oil soothes the inflamed parts and the chloroform is as good a neutralizer, and the bots inhale it and become so stupefied that they let go their hold on the lining of the stomach and fall down a dead mass.

CRACKED HOOFS.

The hoof should be pressed together and clinched by a wrought nail.

Then apply the Hoof-Ointment (for mode of preparing it see "Hoof-Bind") once a day for the first two or three weeks; after which once in two or three days.

The ointment is only employed for the purpose of expediting the cure.

The animal should not be put to heavy labor during the treatment.

CORNES.

Corns are caused by bruises; remove the shoe, cut out the bruised part, fill with turpentine and lard, equal parts. Sear in with a hot iron.

COLIC.

1. Give one ounce (two tablespoonfuls) of the tincture of asafoetida. It very seldom fails to cure in twenty to thirty minutes, but if it should fail, repeat the dose. It is generally known that to drench a horse with salt-water will cure some forms of colic.

2. Take soft soap, - - - - - 1 gill.

Warm water, - - - - - 3 pints.

Inject with a syringe or cow's horn.

Usually one injection is sufficient to effect a cure.

3. Those who have employed saleratus in colic regard it as a very superior remedy. They dissolve and use at a dose one-half to two-thirds of a teacupful.

4. Dr. Goss says he has saved the lives of many valuable horses, affected with this disease, by the use of tobacco; infuse an ounce in a pint of water and use as an injection.

BLOOD OR RED COLIC.

Take of tincture of lobelia, - - - $\frac{1}{2}$ ounce.

Tincture of valerian, - - - 2 "

Give at one dose, and after the animal has become easier, give one and one-half pints of raw linseed-oil.

WIND-COLIC.

Whisky, - - - 8 tablespoonfuls.

Sulphuric ether, - 2 ounces.

One dose is usually sufficient to give relief.

CATARACT.

Burnt alum has seldom been known to fail to remove cataract from a horse's eye. It is to be finely pulverized and blown into the eye with a pipe-stem or goose-quill. The oil of winter-green is likewise used. It is to be injected with a small glass syringe. A few drops are sufficient. The injection is to be repeated in three days.

CATARRH.

Mix half an ounce of nitre with water and let the horse drink it. It is best first to dissolve the nitre in a pint of water, which can then be added to a larger quantity—as much as the horse will drink. Give your horse a bran mash every second morning. If the disease has become chronic, inject a weak solution of alum into the nostrils. This will remove the discharge.

TO CURE COUGHS AND COLDS.

Give twenty grains of bromide of potassium in a bucket of water, three times a day for four days. This includes all kinds of cough, except that brought on by heaves.

Another—An excellent treatment is to give cold bran mashes, with half a pound of linseed and one ounce of saltpetre in each mash.

CONDITION POWDERS.

One gallon wood-ashes, three pounds salt, one pound sulphur, one pound resin. Mix, dampen, put in a trough and feed off of it. This should be kept in the trough at all times, or where a horse can get to it, whether he be healthy or not.

Take two ounces each of finely pulverized gentian-root, African ginger and licorice-powder, one ounce finely pulverized iodide of potassa and four drachms of tartar emetic; incorporate these materials well together in a mortar, then add half a pound of bruised linseed-meal; mix all thoroughly together again. Dose of the powder, one large tablespoonful morning and evening; incorporate each potion well through a mash composed of equal parts of bran and oats, properly salted.

DYSPEPSIA.

Evaporate the liquid substance from beef-gall, take of the wax a piece as large as a grain of wheat, three times a day for ten days.

DIABETES.

Feeding a bran-mash containing carrots will ordinarily relieve this disease. Feeding a horse with green or fresh meat is said to be excellent for the same purpose.

EPIZOOTIC.

The smoke of burning feathers is an effectual cure for this disease. Throw live coals into a tin can, put on

feathers, then put the can in a sack and hold over the horse's nostrils as long as he can bear. After the lapse of a few moments add a fresh handful of feathers to the fire, and apply as before, and so continue for several times, or until a free discharge from the nostrils is produced. Repeat twice a day until the horse is relieved.

DIARRHEA.

Gum-Arabic, -	-	-	-	-	-	2 ounces.
Boiling water, -	-	-	-	-	-	1 pint.
Dissolve and then add—						
Oil of peppermint,	-	-	-	-	-	25 drops.

Mix and give at a dose, and repeat night and morning.

CHRONIC DIARRHEA.

Gum-Arabic, -	-	-	-	-	-	1 ounce.
Powdered chalk,	-	-	-	-	-	1 ounce.
Essence or oil of peppermint,	-	-	-	-	-	20 drops.
Water, -	-	-	-	-	-	$\frac{1}{2}$ pint.

Mix and give twice a day.

FISTULA—POLL-EVIL.

These are the same diseases, only differently located, both being caused by a bruise.

The tumefied parts should be kept constantly wet by means of bandages thoroughly saturated in a mixture composed of equal parts of pure cider vinegar and cold water. This treatment should be well persevered in for a few days. Should the tumor in the meantime increase in its size and the parts develop much heat, a poultice

of bruised flaxseed should be applied twice daily for forty-eight or ninety-six hours, or until the tumor manifests a fluctuating feeling. You will please note that no procrastination should be indulged in, such as waiting patiently for the tumor to break of its own accord, but as soon as the pus or matter can be distinctly felt by pressure, make an incision slantingly with a sharp knife upon the right side of the neck at the base of the abscess. The incision or cut must not be made so deep as to come in contact with the spinal cord or marrow. The opening at the base of the tumor should be made sufficiently large to allow the pus to freely escape as fast as it forms. A seton should be passed down from the natural opening at the top of the tumor through the artificial opening made at its base. Before inserting the seton it should be dipped in tincture of cantharides. This will be found the safest and best plan to adopt for promoting healthy granulation and adhesion of the walls of the tumor. The fistulous track is not probably very long and the tape-seton will work its way gradually but efficaciously out, by which time the cure is made. A stimulus is also necessary, to be applied to the interior of the tumor by resaturating the seton, in three or four days after it is first inserted with a solution made by dissolving ten grains of nitrate of silver in one ounce of cold water. This latter named stimulus should be applied twice per week until a healthy discharge of pus appears, then stop. In the opening, from the top down to the artificial opening at the bottom, should be injected three times per week a stimulus composed of one drachm of chloride of zinc dissolved in one pint of cold water. Apply the zinc lotion in half an hour after using the cantharides tincture and the nitrate of silver solution. The tincture of cantharides should only be applied once and the nitrate of silver solution on the third or fourth day after

and continued as long as found necessary, but the zinc-lotion should be applied once daily until a healthy granulation takes place, then every second or third day until the parts heal soundly.

To scatter poll-evil—Take a handful of mandrake-root, bruise and boil, strain and boil down until quite thick, then form a salve by simmering with enough lard for that purpose. Anoint the swelling every morning until it disappears, which it will do if applied before it breaks or is very far advanced.

Another —Take of gum-Arabic,	-	-	-	-	2 dr.
Caustic-potash,	-	.	.	-	2 "
Extract belladonna,	-	-	-	-	2 "

Dissolve the gum in as small a quantity of water as possible, then add the potash and stir until dissolved, after which add the belladonna. Cleanse the sore with Castile soapsuds and inject into the pipes with a small syringe. Repeat every other day until a cure is effected, which will seldom fail to be done in a short period of time.

FOUNDER.

For treating this disease in its early stages, a celebrated veterinary surgeon says, "I always treat the forefeet for founder and meet with success. By placing the horse's feet in water that is as hot as he can bear, and letting them remain for six hours, being careful to keep up the temperature of the water, even increasing it as he becomes accustomed to the heat, you will find him greatly improved at the end of the above specified time.

"After this, I use the Hoof-Ointment, heating it into the bottom of the hoof with a hot iron, and immediately afterwards give the horse a physic."

Chronic Founder—"This is an exceedingly difficult

matter to remedy, for in many cases you will find that the hoof of the horse has grown entirely out of shape. The best treatment I have ever found is to take the horse to the blacksmith's shop, and have his feet trimmed down as low as possible, then use the hoof ointment on the bottom of the foot. When the shoe is nailed on, be careful not to have it drawn too tight. In the meantime feed him alteratives."

The mode of preparing the Hoof-Ointment is found on page 786.

1. It is said that the seeds of the sunflower, are the best remedy known for the cure of founder. Immediately on discovering that your horse is foundered, mix about a pint of the whole seed in his food, and it will give a perfect cure.

2. Founder is the effect of a gorge of food or water, causing stiffness in the fore pasterns. To cure this, gauge the small blade of a knife, half an inch from the point; lance the horse this depth in the wart of the fore-leg and take one teaspoonful of blood from each leg. This is said to be a prompt and effectual cure.

3. One among the best remedies in use, for this difficulty, is alum. Give a tablespoonful (dissolved) two or three times a day.

4. Another remedy for founder is, to clean out the bottom of the horse's foot and pour in a tablespoonful of spirits of turpentine. Touch it with a red-hot iron, or use any other means to ignite it; hold the foot firmly till the turpentine burns out. Care must be taken that none runs on the hair about the hoof, lest the skin be burned. Relief will speedily follow, and the horse will soon be ready for use.

FLAT FOOT.

The only remedy for this is to throw the weight off the heel. To do this, the shoe should be sprung backwards, from the last nail-hole, so that will tend to curve downwards: this will make the shoe spring with every step of the horse, and lessen the weight on the heel. A horse shod in this way will walk with much more ease.

TO PREVENT GALLING THE SHOULDERS.

1. The following is recommended for this purpose: wash the shoulders of the horse with strong alum-water twice a day for several successive days before using him; also use as a wash a strong decoction of white-oak bark, or, while letting the horse rest, raise the collar and pull it forward and rub the shoulder with the hand.

2. Another plan is to wash with a lather of Castile soapsuds, and leave a lather of soap on the shoulders.

SORE SHOULDER AND BACK OF HORSES.

1. Wilt the leaves of jimson (*stramonium*) and apply to the affected parts and it will cause them to heal readily, even when the horse is used every day.

2. The following is a good liniment for curing these difficulties:

Sweet oil, - - - - - 2 ounces.

Gum camphor, - - - - - 1 “

Mix and apply twice a day.

GRUBS IN HORSES.

Make an opening with a penknife, and gradually squeeze them out. Then take a pint of strong vinegar and an ounce of pulverized chalk. Mix well and give as a drench.

TO CURE GRAVEL.

1. Make a decoction of one-half pound of hops and three pints of water, and give it as hot as you think the horse can endure.

2. In most forms of this disease, beet-juice is a sure cure. Extract several gallons of the strong juice and give as the horse's daily drink; or he may be drenched with it.

A horse with the gravel acts very much as a horse does with the colic, except the throwing of the head to the side.

HEAVES.

1. Add indigo to water until it is blue, and give a two-gallon pailful two or three times a day.

"Old horsemen" assert that they have never known a remedy to "bear any comparison" to this, in value, for curing heaves.

2. Another superior remedy, which has effected many cures when the cases seemed to be beyond the reach of medicine, is to wrap the bit of the bridle with tobacco leaves, and keep them on for weeks at a time. Moisten a plug of tobacco and from this separate the leaves, or use the natural leaf when it can be gotten.

3. *Smart-weed* is another remedy that is highly recom-

mended for this disease. From one and a half to two pints of a strong decoction of it is to be given daily, for ten or twelve days. It may be mixed with the horse's feed. During this time he should be fed on cut or green feed. The former should be wet with water.

4. Almost a sure cure for the heaves is to turn the horse loose on the Western prairies one season.

HOOKS.

Hooks are a contraction of the cords back of the eye. When they become inflamed they enlarge, contract and draw the washer out of its natural position, causing it to swell. To cure, cut the cords back of the eye and let the washer alone.

CURE FOR HOOF-BIND.

In the outer wall of the foot, all the way around the hoof, there should be made grooves, one inch apart. The shoe should then be made to circle so as to protect the heel, and should be bended, from the last nail-hole back, on the inside instead of on the outside. This is to spread the foot.

Then the hoof-ointment should be applied every morning, in the bottom of the hoof. This ointment is made as follows:

Take of turpentine,	-	-	-	-	2 ounces.
Sweet oil,	-	-	-	-	2 "
Gum-camphor,	-	-	-	-	2 drachms.
Oil of spike,	-	-	-	-	$\frac{1}{2}$ ounce.
Corrosive sublimate,	-	-	-	-	2 drachms.

Apply with a sponge.

The horse's feet should be soaked in warm water at least three times a week.

ITCH.

Give one teaspoonful of equal parts of black antimony and sulphur, once a day; at the same time reduce the daily allowance of food and put the horse on low diet. In a few weeks the sores will have disappeared, and the horse will be covered with a coat of new hair.

TO CURE KNEE-SPRUNG HORSES,

Also galls, sprains, sores, etc., take fresh worms and put them in a vessel for twenty-four hours, until they become clean; then put them in a bottle and throw plenty of salt on them; place them near a stove and they will turn to oil. Apply freely to the parts affected.

LOCK-JAW.

1. Chloroform is an effective means of arresting this disease. Use from one to three ounces, by taking a sponge and saturating it with chloroform, and keeping it close to animal's nose until he is under the influence of it. Then take—

Alcohol,	-	-	-	-	-	-	-	1 pint.
Capsicum,	-	-	-	-	-	-	-	1 ounce.

Make a mixture and rub his legs, and also his spinal column.

2. This is often speedily relieved by placing a board to the bottoms of the feet of the horse, and then striking it several blows.

3. Drench with three ounces of powdered lobelia-seed and one pint of warm water; rub hartshorn over the face and neck; hold choloroform to the nose until the jaws open.

OINTMENT FOR CORKS AND BRUISES OF THE FEET.

Lard,	-	-	-	-	-	-	-	-	-	-	-	1 pound.
Rosin,	-	-	-	-	-	-	-	-	-	-	-	2 ounces.
Beeswax,	-	-	-	-	-	-	-	-	-	-	-	3 ounces.

Melt together and add one ounce of powdered verdigris and one-half pound of tallow. Stir it all until it gets cool. You will find this ointment unsurpassed for bruises, corks, etc.

LAMPERS (*Lampass*).

Take a gum-lancet and lance the gums. After this is properly done, take a little fine salt and rub the gums with it. If the gum-lancet is not at hand, a common pocket-knife—which should be very sharp for the purpose—will answer equally as well as the lancet. With the knife make several incisions through the prominence down to the teeth, after which apply the salt as above directed, and where the lampass is unattended with any other local disease the cure is made, and the animal will recover his appetite immediately. Lampass should never be burned with a hot iron.

NARROW HEEL.

Rasp the front part of the foot and saturate the whole foot with the following hoof-liquid: eight ounces spirits turpentine, six ounces oil of tar, six ounces linseed oil, four ounces oil origanum. Mix and apply every morning.

RING-BONE AND SPAVIN.

Take of tincture of iodine,	-	-	-	4 ounces.
Cantharides,	-	-	-	1 “
Mercurial ointment,	-	-	-	2 “
Corrosive sublimate,	-	-	-	1½ drachms.
Turpentine,	-	-	-	2 ounces.
Lard,	-	-	-	1 pound.

Mix well together.

Cut the hair off the part affected, and after applying the ointment rub well with the hand.

After two days grease the part with lard, and after four days more wash with soap and water and apply the ointment again, and repeat every four days.

This is stated by veterinary surgeons to be an effectual cure for lameness occasioned by ring-bone, spavin, etc.

2. In all cases, in the early development of tumefaction and lameness, cooling lotions, hot fomentations, light but nutritious, sound and sweet diet, combined with absolute rest for some time, are the best means of cure. In this case apply early hot fomentations and acetate of cantharides until the affected parts appear tumefied and tender to the touch; then substitute cold water bandages and repeat the process if necessary.

CURE FOR SCRATCHES.

1. Wash the parts twice a day with Castile-soap and water, followed by an application of blue-vitriol water. This is usually sufficient to cure this difficulty.

2. Kerosene oil applied once a day for three or four days, is reputed a cure.

3. White lead and linseed-oil will also cure this affec-

tion. Mix as if you were preparing it for painting, and apply.

BITES OF SNAKES.

1. Give the horse, as soon as possible, three or four quarts of whisky.

2. Clay made into a mortar, applied for twelve or fifteen hours and renewed occasionally, will often effect a cure.

FOUL SHEATH—DIRECTIONS FOR STALLION.

The sheath of a stallion may be kept perfectly clean by occasional washings with Castile-soap and warm water, applied with a soft, velvet sponge; the pouch should be thoroughly dried from all soapy material, both inside and outside; and then the inside should be slightly anointed with olive or sweet oil. Considerable care and judgment must be exercised in washing the sheath during the winter and early spring months, or the animal will not do well subsequently. No foreign bodies or material that may be found in any way attached to the inside of the pouch or sheath should be violently rubbed off with the sponge nor picked off with the fingers when washing, but all must be soaked off by means of the soapsuds. The oil above prescribed must be used sparingly, as when it is used too lavishly it will cause dirt to collect in the parts anointed.

Feed—Six quarts of sound and sweet oats, and fourteen pounds of sweet and sound hay per day, is quite sufficient grain and provender for your horse; and a few carrots or Swedish turnips, well washed and sliced, may be added with advantage. You should give your horse from

one to one and a half pints of salt per week, or else a large piece of rock-salt should be kept in his feed-box. Two hours and a half of moderate exercise daily is necessary for a horse to keep him in good normal condition. Where this cannot be given he should be turned out daily during the winter and spring months, in pleasant weather, in a lot.

CURE FOR SWEENEY.

1. Eight ounces spirits of turpentine, eight ounces good vinegar, one egg. Mix, shake well, and bathe twice a day with the naked hand. This cures curbs, splints, strains and bruises of all kinds.

2. Cut the skin just above the affected part and insert a silver half-dollar. Close the wound by stitches. The coin will make its way down through to the healthy skin; the cure is then effected and the money may be removed.

3. Puncture the skin near the top of the deadened surface, through which puncture inflate the part with air; after which inject one-half teaspoonful of the following mixture:

Sulphuric ether, - - - - 2 ounces.

Oil of turpentine, - - - - 2 ounces.

SCOURS.

Give the whites of three eggs and a teaspoonful of alum at each feed until cured. This is for the full grown horse; if it be a colt affected, rub the gums from the center-nippers above and below.

SPAVINS, WIND-GALLS AND RINGBONES.

The following comes to us recommended as almost an infallible remedy for these difficulties :

Corrosive sublimate, - - - $\frac{1}{2}$ ounce.

Spanish flies, - - - - $\frac{1}{2}$ ounce.

Alcohol, - - - - $\frac{1}{2}$ pint.

Apply to the parts affected for two evenings in succession, and on each succeeding morning press out the matter with a sharp-edged stick, and then wash with soapsuds. After three days repeat the operation as above, and likewise continue until a cure is effected. Ordinarily a few applications will be sufficient.

TO STOP BLEEDING.

Raise the upper lip and put a strong bandage around the upper jaw, just above the nippers. This bandage should be a half-inch wide and drawn tight, and let remain until the blood coagulates.

STRAIN.

Foment the affected limb with a lye made by dissolving two ounces of sal-soda in a pailful of hot water. Apply the lye with a sponge as hot as it can be borne, twice daily for one hour each time; keep your lye to this temperature of heat during each fomentation; dry the parts fomented each time from all the lye material, and bathe them with a strong infusion made of either wormwood or hops; use whichever of these is the more convenient, and pure cider-vinegar; steep the hops or

wormwood in the vinegar, and apply as hot as it can be used immediately after each fomentation, and hand-rub well in; then cover the limb with flannel. This treatment, if thoroughly persevered in, with rest from all work added, will no doubt prove an efficacious one in a very short time. Feed no corn or other heavy grain whole or ground, while your animal is under treatment. Oats and bran and carrots or Swedish turnips, with good sound and sweet provender, properly seasoned with salt, are the only kinds of diet that should be fed to your animal until a full recovery takes place.

THRUSH IN FEET.

Thrush is by some called frush; the direct cause of which is neglect and oversight in the management of the hoof. Its symptoms are a fetid odor, combined with morbid exudation from the frog and with softening of the same. Apply twice a week, as long as it is found necessary, a charcoal-poultice made of three parts finely pulverized charcoal and one part of bruised flaxseed meal, mixed with warm water. Use the poultices at night. After removing it in the morning, dress between the clefts of the frog with pyroligneous acid and fine table-salt mixed. Be careful to press the acid and salt down to the very bottom of the cleft of the frog at each dressing, morning and evening. I believe the safest plan to adopt in cases of this kind is to treat the disease both locally and constitutionally. The local treatment I have above indicated. For the constitutional treatment take equal parts of finely pulverized sassafras-root, lac-sulphur, gentian-root, African ginger, charcoal and salt: incorporate well in a mortar. One ounce daily is a dose.

Another—Wet thrush is brought on by excessive wet

or standing in wet stables, causing the frog of the foot to decay. Dry thrush is brought on by extreme drought. To cure either, take equal parts lard and spirits of ammonia, fill the bottom of the foot with this and sear in with hot iron. Thrush almost always causes the foot to contract, for which use the "hoof-ointment."

WOUNDS.

One among the best washes for wounds is to take one-half pint of turpentine, one-fourth pound of saltpetre, put them in a bottle: apply to the wound three times a day, with a feather. Shake well before using.

BONE-SPAVIN.

1. Foment the spavin twice daily, for half an hour each time, with a lye made by dissolving one ounce of soda in one gallon of hot water; apply with a sponge, as hot as the animal can bear it without causing distress. The lye should be kept at the same temperature during each fomentation. All lye material should be carefully but thoroughly removed from the surface of the skin when drying the parts immediately after each application. A sweating-blister should be applied every night over the region of the spavin, and well hand rubbed into the surface of the skin immediately after the parts have been fomented and dried as above described, until considerable irritation is produced on the surface of the skin. Then the use of the blister should be omitted for three days and applied again in the same way. The blister is composed of one ounce each of tincture of cantharides, oils of turpentine, organum and spike, two drachms of finely pulverized corrosive sublimate, three

ounces each of raw linseed-oil, camphorated oil, tincture of opium and one pint of alcohol. Incorporate these well in a bottle and the blister is ready for use. The fomentations must be perseveringly applied twice daily as above described during the blistering, and for several days after the use of the blister is wholly discontinued. Feed your horse on mash-food, which should consist of equal parts of sound and sweet bran and oats, with half a pint of bruised flaxseed-meal added, properly seasoned with salt, morning and evening. Make each mash with cold water. The remainder of the food should be grass. This treatment will be found as efficacious as any and will leave no scar or blemish behind it, provided it is used according to directions.

2. It is said that "Triple H" liniment will cure bone and blood-spavin.

- | | | |
|-------------------------|-----------|-----------------|
| 3. Take of oil of spike | - - - - - | 1 oz. |
| Oil of amber | - - - - - | $\frac{1}{2}$ " |
| Spirits of turpentine | - - - - - | 2 " |
| Nitric acid | - - - - - | $\frac{1}{2}$ " |

The acid must be put into the bottle last. Apply thoroughly and it will remove the lameness, though not probably the bunch. If the horse has reached the age of four years, fit a bar of lead just above the swelling and twist or wire the ends together, so that it will constantly wear upon the enlargement. The two together will cure almost every case in six or eight weeks.

STRING-HALT.

String-halt is a soreness of the muscles of the loin; usually caused by a strain. Cure—place your hand on the backbone just forward of the coupling, pass across the loin till you find the soreness. Insert a rowel or seton

under the skin over the soreness, move this back and forth twice a day until cured, which usually takes in from four to six weeks.

1. Some of the worst cases of this difficulty have been cured by the use of goose-oil.

It is to be applied to the muscles thoroughly two or three times a day.

2. **Sweet oil** has been used in the same way with success.

SAND FOR HORSES.

Mr. Small, of Dundalk, a veterinary surgeon of considerable experience, states that sand is not only an excellent substitute for straw, for horse's beds, but superior to straw, as the sand does not heat, and saves the hoofs of the horses. He states that sand is exclusively used for horses' beds in his hospital. This suggestion merits notice.

THUMPS.

1. Ordinarily there is no permanent cure for this disease, although the animal can be relieved to a great extent, by placing five drops of aconite on the tongue, and if the animal is not relieved by the first dose, repeat the dose at intervals of one hour until there is a change for the better perceived. I have never known this to fail in from one to two doses.

2. Give the horse two or three quarts of strong brine, then bleed in the third bar of the mouth. Give the brine while bleeding.

WARTS.

1. Touch over the entire surface of the wart twice daily, morning and evening, with a stimulus composed of one drachm of nitrate of silver dissolved in one ounce of fresh rain or spring-water. Apply with a camel's hair brush until the wart disappears, which will probably take place in two or three weeks' time.

2. Take equal parts of calomel and copperas, mix and apply dry. This is also an invaluable medicine for curing sore necks, backs, shoulders, etc.

TO CURE WENS.

Take a half-teacupful of slaked lime and the same amount of soft soap, mix well and apply to the wen. From two to four applications will generally effect a cure. The wen should be lanced at the time of making the application, or a day or two after.

BLOOD-WART.

Wash it twice a day with a solution of blue-stone, after which sprinkle some of the pulverized stone upon the wart, and in due time it will be removed.

WORMS.

1. Giving a teaspoonful of pulverized alum in each feed, for six feeds, is usually sufficient to remove worms.

2. Powdered areca nut is another good remedy ; give

one teaspoonful morning and evening; two doses will be sufficient. After which the animal should be given a pint of oil to work off the medicine.

3. Linseed oil - - - - - 1 pint.

Spirits of turpentine, - - - - - 2 teaspoonfuls.

Mix and give every morning until the worms are expelled.

RUBBING THE TAIL.

1. The cause of this disease usually originates from worms. Many are mistaken in thinking it is a humor of the tail, when it is only the worms that irritate the rectum.

2. Inject a solution of sulphuric ether. If this does not allay the irritation, it is simply an irritation of the anus, and it needs to be greased thoroughly with citrate ointment.

SLOAN'S CELEBRATED HORSE-OINTMENT.

Take of rosin, - - - - - 2 ounces.

Lard, - - - - - 4 "

Beeswax, - - - - - 2 "

Honey, - - - - - 1 "

Heat the whole until they are brought to a boil, remove and slowly stir in a half-pint of turpentine, then stir until cold. It is very valuable for bruises, galled backs, sores, cracked heels, etc.

MISCELLANEOUS REMEDIES.

The following, by J. J. Stützman, will be found as interesting as practical:

1. **Cure for colic**—Take one gill of turpentine, one

gill of opium dissolved in whisky, and one quart of water milk-warm. Drench the horse and move him about slowly. If there is no relief in fifteen minutes, take a piece of chalk about the size of an egg, powder it, and put it into a pint of cider-vinegar, which should be blood-warm; give that and then move him as before.

2. Another—Take one ounce laudanum, one ounce of ether, one ounce of tincture of asafoetida, two ounces tincture of peppermint, half-pint of whisky; put all in a quart-bottle, shake it well and drench the horse.

Cure for the bots—Take one and a half pints of fresh milk, just from the cow, and one pint of molasses. Drench the horse and bleed him in the mouth; then give him one pint of linseed-oil to remove them.

For distemper—Take mustard-seed ground fine, tar and rye-chop, make pills about the size of a hen's egg. Give him six pills every six hours, until they physic him; then give him one tablespoonful of the horse-powder mentioned before, once a day, until cured. Keep him from cold water for six hours after using the powder.

Rheumatic liniment—Take croton-oil, aqua ammonia, f. f. f.; oil of cajeput, oil of origanum, in equal parts. Rub well. It is good for spinal diseases and weak back.

Cuts and wounds of all kinds—One pint of alcohol, half-ounce of gum of myrrh, half-ounce aloes; wash once a day.

Sprains and swellings—Take one and a half ounces of hartshorn, one ounce camphor, two ounces spirits of turpentine, four ounces sweet oil, eight ounces alcohol. Anoint twice a day.

For glanders—Take of burnt buck's horn a tablespoonful every three days, for nine days. If there is no relief in that time, continue the powder until there is relief.

Saddle or collar-liniment—One ounce of spirits of

turpentine, half-ounce of oil of spike, half-ounce essence of wormwood, half-ounce of Castile soap, half-ounce gum-camphor, half-ounce sulphuric ether, half a pint of alcohol, and wash freely.

Liniment to set the stifle-joint on a horse—One ounce oil of spike, half-ounce origanum, half-ounce oil amber. Shake it well and rub the joints twice a day until cured, which will be in two or three days.

Eye-water—I have tried the following and found it an efficient remedy. I have tried it on my own eyes and those of others. Take bolus muna one ounce, white vitriol one ounce, alum half-ounce, with one pint of clear rain-water; shake it well before using. If too strong, weaken with rain-water.

Liniment for wind-galls, strains and growth of lumps on man or horse—One ounce oil of spike, half-ounce origanum, half-ounce amber, aqua-fortis and sal-ammonia one drachm, spirits of salts one drachm, oil of sassafras half-ounce, hartshorn half-ounce. Bathe once or twice a day.

Horse-powder—This powder will cure more diseases than any other medicine we know; such as distemper, fersey, hide-bind, colds and all lingering diseases which may arise from impurity of the blood or lungs. Take one pound comfrey-root, half-pound antimony, half-pound sulphur, three ounces saltpetre, half-pound laurel-berries, half-pound juniper-berries, half-pound angetice-seed, half-pound rosin, three ounces alum, half-pound copperas, half-pound masterwort, half-pound gun-powder. Mix all to a powder and give in most cases one tablespoonful in mash-feed once a day until cured. Keep the horse dry, and keep him from cold water six hours after using it.

For cuts or wounds on horse or man—Take fish-worms mashed up with old bacon-oil, and tie on the wound, which is the surest and safest cure.

Oil for collars—This oil will also cure bruises, sores, swellings, strains or galls. Take fish-worms and put them in a crock or other vessel, twenty-four hours, till they become clean; then put them in a bottle and throw plenty of salt upon them; place them near a stove and they will turn to oil; rub the parts affected freely. I have cured knee-sprung horses with this oil frequently.

Sore and scummed eyes on horses—Take fresh butter or rabbit's fat, honey and the white of three eggs, well stirred up with salt and black pepper ground to a fine powder; mix it well and apply to the eye with a feather. Also rub above the eye, in the hollow, with the salve. Wash freely with cold spring-water.

For a bruised eye—Take rabbit's fat and use as above directed. Bathe freely with fresh spring-water. I have cured many bloodshot eyes with this simple remedy.

Poll-evil or fistula—Take of Spanish flies one ounce, gum euphorbium three drachms, tartar-emetic one ounce, rosin three ounces; mix and pulverize, and then mix them with a half pound of lard. Anoint every three days for three weeks; grease the parts affected with lard every four days. Wash with soap and water before using the salve. In poll-evil, if open, pulverize black bottle-glass, put as much in each ear as will lie on a dime. The above is recommended in outside callous, such as spavin, ring-bone, curbs, wind-galls, etc.

To make the hair grow on man or beast—Take milk of sulphur one-half drachm, sugar of lead one-half drachm, rose-water one-half gill; mix and bathe well twice a day for ten days.

Cholera or diarrhea mixture—One ounce of laudanum, one ounce of spirits of camphor, one ounce spirits of nitre, half-ounce essence of peppermint, twenty drops of chloroform; put all in a bottle; shake well, and

take half-teaspoonful in cold water once every six, twelve and twenty-four hours, according to the nature of the case.

OTHER REMEDIES.

Bots—Mix one pint honey with one quart sweet milk, give as a drench. One hour after dissolve one ounce pulverized copperas in a pint of water, use likewise, then give one quart of linseed oil. Cure effectual.

Colic—After bleeding copiously in the mouth, take a half-pound of raw-cotton, wrap it around a coal of fire in such a way as to exclude the air, when it begins to smoke hold it under the horse's nose until he becomes easy. Cure certain in ten minutes.

Distemper—Take one and one-half gallon of blood from the neck-vein, then give a dose of sassafras oil; one-and one-half ounces is sufficient. Cure speedy and certain.

Fistula—When it makes its appearance, rowel both sides or the shoulder; if it should break, take one ounce of verdigris, one ounce of oil-resin, one ounce of copperas; pulverize and mix together. Use it as a salve.

Recipe for bone-spavin or ring-bone—Take a tablespoonful of corrosive sublimate, quicksilver about the size of a bean, three or four drops of muriatic acid, iodine about the size of a pea and lard enough to form a paste; grind the iodine and sublimate fine as flour, and put all together in a cup; mix well, then shear the hair all off the size you want; wash clean with soapsuds, rub dry, then apply the medicine. Let it stay on five days; if it does not take effect take it off, mix it over with a little more lard and add some fresh medicine. When the lump comes out wash it clean in soapsuds, then apply a poultice of cow-dung, leave it on twelve hours, then apply healing medicine.

DISEASES OF CATTLE.

GARGET IN COWS.

This is explained to be hard swellings of the teats and bags of cows, caused often by their not being milked, or not milked clean.

This difficulty may be removed by giving the cow a pint of beans. They may either be soaked in water and mixed with their feed, or first ground and then mixed with their feed.

CHOKED CATTLE.

1. A strong solution of salt in water, used as a drench, will in nearly every instance relieve this difficulty.

2. Another mode of relief is to cause the animal to jump over as high a fence as possible.

3. Another method, that will often cause the obstruction to be ejected from the throat, is to discharge a gun or a revolver, holding the muzzle between the horns and a little forward of them.

HOOF-ROT.

Take one teacupful of the best vinegar, two teacupfuls of salt, one and one-half teacupfuls of copperas. Dissolve on the stove, but not boil. When cool, apply to the affected parts once or twice a day. Two or three applications usually cure.

TO DESTROY LICE.

Take of coal-oil, - - - - - $\frac{1}{2}$ pint.

Lard, - - - - - $\frac{1}{2}$ "

Melt, mix and apply. It will effectually kill all lice.

Camphor-gum dissolved in spirits will promptly remove lice from animals.

They are said to be removed by dipping the teeth of the curry-comb or card into coal-oil, and keeping it moist with it while currying or grooming the animal.

RIGHT METHOD OF MILKING COWS.

Many cows are ruined by bad milking. Too frequently, through carelessness and want of thoroughness, individuals will cause the usual quantity of milk to shrink one-third in two weeks.

In milking they will seize the root of the teat between the thumb and forefinger, then drag upon it until it slips out of their grasp; this, together with the rude way of using the teat and udder, and their ill disposition to the cow completes the injury.

BAD HABITS OF THE COW.

Cows should always be treated with great gentleness, especially when young or when the teats are tender, in which case the udder ought to be washed with warm water before milking, and touched with the greatest gentleness, otherwise the cow will be in danger of contracting bad habits and retaining her milk ever after. A cow never lets down her milk pleasantly to the person she dreads or dislikes.

PARSNIPS GOOD FOR MILK.

Parsnips cause cows to produce abundance of milk, and they eat them as free as they do oil-cake, and the milk is like cream. Sheep, when lambing, fed with them, produce much milk. They are improper food for horses, subjecting them to blindness.

NEW REMEDY FOR THE CATTLE-PLAGUE.

Under the somewhat inappropriate sub-heading, "*Similia similibus curantur*," the *Eastern Budget* published the following paragraph: "A landowner in Southern Russia has submitted a new remedy against the cattle plague to the Russian Agricultural Society. This remedy, which he says he has used with complete success on about four hundred cattle, consists in taking the skin of an animal which has died of the plague, rolling it round three *puds* (120 pounds) of salt, and then placing it for a whole night before a large fire. The salt thus prepared is then administered to healthy cattle, whom it inoculates with a mild form of the disease, from which they recover in from twenty to twenty-six hours, and then become entirely proof against the danger of infection."

CURE FOR SCOURS IN CATTLE AND HORSES.

Boil a quantity of wild-cherry bark for an hour or more. The quantity of water should be sufficient to keep the bark covered while boiling. Soak corn, oats

or barley in this liquid and feed with it. It has proved one of the best remedies in use for this disease.

SCOURS IN CALVES.

Give a raw egg and repeat the dose twice a day. It can be administered by holding the tongue and pouring it down the throat. This is a sure remedy.

CURE FOR CATTLE SWELLED WITH GREEN FOOD.

Instead of the usual method of stabbing in the side, give a dose of train-oil. This has been often tried with a successful result. The quantity of oil must be adapted to the size and age of the animal. For a grown-up beast, of average size, the right quantity is about a pint.

TO CURE BLOODY MURRAIN OR BLACK LEG.

1. Drench the animal twice a day with a teacupful of salt and as much vinegar. No water should be given for ten hours after the drenching process.

2. Dissolve a tablespoonful of saltpetre in a pint of water. This should be given at one dose. Give two doses the first day and one dose every succeeding day, until the cure is complete. This is said to have been successful after all other means had failed.

3. First bleed in the foot of the leg affected. Then cut a hole in the skin just above the soreness, insert a strong solution of saltpetre-water and work it down over the soreness with the hand. Let this and the corruption out by cutting a hole in the skin below.

TO PREVENT MURRAIN IN CATTLE DURING ITS PREVALENCE.

Give them, every three days, one tablespoonful of salt and two of slaked lime.

SAWING OFF CATTLE'S HORNS.

This operation is liable to result in inflammation of the head, madness, lock-jaw, or other dangerous maladies. Besides, the operation of sawing off horns is a very painful one to animals, and such a gross act of cruelty should never be performed.

FATTENING CALVES.

Calves will thrive better on milk that is not rich in butter, than on that which is. The reason of this is, the nutritive elements of milk are chiefly in the casein, and not in the butter-making properties.

If you have a cow that gives rich milk and one that gives a quality poorer in butter, it is better to feed the calf on the milk of the latter. The calf will thrive better, and you will get more butter from the milk of the first cow.

REARING CALVES—SAVING CREAM AND MILK.

Take nearly the quantity of water that the calf can drink and while boiling add two handfuls of oatmeal.

When milk-warm, mix with it one or two quarts of skimmed milk, and feed it to your calf. This will make it grow much faster than by the old method.

CREAM.

The quantity of cream on milk may be greatly increased by the following process: Have two pans ready in boiling water, and when the new milk is brought in, put it in one of these hot pans and cover it with the other. The quality is improved as well as the quantity increased.

BLOODY MILK.

Give a teaspoonful of sulphur in a little dry bran once a day, and in severe cases it may be necessary to give it twice a day.

SWELLED BAGS.

This difficulty in cows is usually very readily removed when caused by cold and exposure, by dissolving one-half ounce of pulverized camphor-gum in two ounces of sweet-oil over a slow fire, and applying twice a day.

TO INCREASE THE QUANTITY OF MILK IN COLD WEATHER.

Slightly warm the water given to the cow, and to this add one quart of bran to two gallons of water, and a little salt. Give at least this amount three times a day. It will increase the amount of milk of many cows twenty-five per cent. Never give them the dirty slops from the kitchen.

MARK OF GOOD COWS FOR MILK.

The upward growth of the hair on the inside of the thighs of the cow, from immediately behind the bag as high as the hair grows. Smooth and fair-sized teats; slim neck and yellow skin apparent above the eyes and nose, are indications of rich milk and of a good cow. Another good indication is a striped hoof, though it is not infallible, but accompanied with soft, yellow skin, it is almost a sure sign of a good cow. A cow with black hoofs will seldom yield rich milk.

KICKING COWS.

This is sometimes caused by sore teats, tender bag, the milker pulling the long hairs on the bag, or his having long, sharp finger-nails. In such cases, shear off the long hairs and cut off the long nails; bathe the chapped teats with warm water and grease them well with lard, and if they do not heal readily, or if it is a very severe case, apply equal parts of glycerine and tannic acid, mixed, and it will cure the difficulty very promptly.

Another important consideration is to always treat your cow gently.

If you find that she is like some men, has a bad temper—and the kicking originates from this cause, then bend the fore-leg so as to bring the foot up to the body; then put a small strap around the arm and small part of the leg, near the hoof, crossing between so as not to slip off over the knee, and buckle. In this condition she cannot kick, and it is a good way to subdue her. Never confine the hind legs, singly or together, for in doing this there is danger of spoiling the animal. And never whip nor beat a cow in any case.

TO REMOVE WARTS ON COWS' TEATS.

Warts may be removed by cutting them off with shears; and this is not a very painful operation for the cow. Large warts may be removed by twisting a piece of fine wire sufficiently light around the wart to obstruct the circulation of the blood; and they will, in due time, drop off. Warts should not be removed while cows give milk.

HOLLOW-HORN.

Pour strong spirits of camphor on the top of the head, once a day. Some recommend that the camphor be diluted with water until it is very weak, and pour it into the ears of the animal. Some medical authorities on this subject advise that the horns be bored, while others are opposed to such a proceeding. Copperas is highly recommended in this disease. A teaspoonful is to be pulverized and mixed with the feed, and given each morning. If the animal does not eat, dissolve the copperas in water, and drench with it. A few doses are usually sufficient.

DISEASES OF SHEEP.

CARE OF SHEEP AND LAMBS.

Keep sheep dry under foot. This is even more necessary than roofing them. Furnish them an ample supply of water during the winter months, as well as at other seasons of the year. Begin feeding grain with the greatest care, and use the smallest quantity at first. Never frighten sheep if possible to avoid it. Separate the weak sheep from the rest of the flock, in order to give them special attention. If a sheep is injured, wash the wound; if flies are troublesome, apply spirits of turpentine every day or every second day. Cut taglocks early in the spring. If sheep are given pineboughs once a week, it has a tendency to prevent disease, increase health and create an appetite.

FOR SCAB.

Mix one part of linseed-oil with two of coal-oil. One application of this will generally effect a cure.

STRETCHES.

Give a strong tea of red peppers. Dose, one-fourth of a pint. Follow this by giving the sheep exercise: such as running them around the lot or field for eight or ten minutes.

FOOT ROT IN SHEEP.

Salt will very materially relieve, and not unfrequently entirely cure this disease. It is given freely in their feed, and sprinkled on the grass they eat.

Another—Potash, - - - - - 4 ounces.
 Arsenic, - - - - - 4 “
 Water, - - - - - 1 gallon.

Boil till dissolved.

When you discover that sheep have become lame, pass them through a trough holding a warm solution containing the proportions of the above. The amount to be used will depend on the number of sheep to be treated. Let your trough be twenty or twenty-five feet long, and just wide enough to admit one sheep walking after the other. Keep it about three inches deep, of the solution. Two thousand sheep can be run through in a few hours, and this will result in a cure.

SORE HEAD.

This disease is connected with, or often the sequel of and produced by the striking of the fly. Next to the tail of the sheep the head is the most frequently and seriously attacked, and in the animals' trying to defend themselves from their tormentors, they are continually striking their heads with their hind feet, until sores are formed, from which many others, perhaps, will soon be observed, originating from the first.

Treatment: First make a nice-fitting cap for the head out of soft, thin leather, or of stout, brown paper, or of strong, cotton cloth. In cutting, fitting and making this

cap, the eyes must be left plenty of room, in order that the ointment preparation may not get on the lids and close the eyes. The ointment is composed of two pounds of black pitch, one pound each of tar and flowers of sulphur. Melt these materials together in an iron pot over a very slow fire, constantly stirring the ingredients as they begin to melt. The compound must be carefully and constantly watched, or it will boil over into the fire and be lost. As soon as the materials are thoroughly melted and mixed together, the vessel should be removed from the fire, before they begin to boil, for they will swell rapidly, and the whole mass would run over and be lost. While the ointment is warm and soft spread a good thick coating on the inside of the cap fitted to the head. The dressing should be done at night. The ointment will gradually cool, and the cap will stick close to the head.

CATARRH.

Immerse a small feather in spirits of turpentine, and insert it into the nostril of the sheep. Twirl it around once or twice before withdrawing it. Ordinary cases will be cured with one application. More severe ones by two or three, to be applied at intervals of two or three days.

SCOURS IN SHEEP.

Give pulverized alum in wheat-bran. Great care in changing from dry to green feed should be exercised.

FOR LAMENESS.

Examine the foot, clean out between the hoofs, pare the hoof, if unsound, and apply a wash of carbolic acid.

TO PREVENT DOGS FROM KILLING SHEEP.

If sheep are kept in the same lot with cattle, dogs will not disturb them ; for, almost invariably, as soon as a dog approaches sheep they will run to the cattle, and these will drive the dog away.

TO PREVENT SHEEP, CATTLE AND OTHER ANIMALS FROM JUMPING.

Clip the eyelashes of the underlids with a pair of scissors. This, it is said, destroys the ability and disposition to jump, and the animal will not again make the attempt until the eyelashes are grown.

TO MARK SHEEP WITHOUT INJURY TO THE WOOL.

To thirty spoonfuls of linseed-oil, add two ounces of litharge and one ounce of lamp-black : unite them together by boiling, and mark the sheep therewith.

HOGS.

HOW TO PREVENT HOG-CHOLERA AND OTHER DISEASES.

Keep your hogs in good clean fields ; give them access to pure water—even though you should be compelled to dig a well for that purpose ; a good pump and plenty of suitable troughs, cleansed every week, will cost but little and will always prove a valuable outlay. Provide also, in the driest part of the field, a good shelter, both from sun and rain. And by no means allow them sleep on old straw or manure. Leaves or dry ground make healthy beds. In troughs, near by their resting-places, once each week, place a composition of salt, soda and red pepper. To four parts of the first article add one part of the latter. Our common red peppers will do very well ; they should, however, be well pulverized, and all the ingredients thoroughly mixed. Most healthy animals will readily devour salt. To obtain it they will also take the alkali and the stimulant. It is not offered as a patent remedy, but simply as a preventive of the injurious effects of the foul gases and the pestiferous filth in which hogs wallow. Exclusive grain-feeding has a tendency to produce cholera ; therefore other kinds of food should be employed in connection with grain. Among the best are artichokes and turnips. Hogs should have free access to mud and water. They seem to be a natural disinfectant.

When hogs are being fattened in pens they should be turned out during damp weather.

Stone-coal or charcoal should be kept where they can have free access to it.

BLIND STAGGERS.

This almost invariably originates from too high feeding. In order to cure the difficulty it is necessary to withhold the food from the hogs for a day or two, and feed them very small quantities of sulphur and charcoal.

LICE ON HOGS.

Apply crude petroleum-oil once a month and no more of the vermin will appear.

Boil tobacco (leaf-tobacco if you can procure it) until you have a strong decoction, and add enough of grease or lard to make a thin salve; apply thoroughly, and in one day there will be no vestige of lice left.

HOG-CHOLERA.

To prevent hog cholera take one peck of charcoal, one pound of cape-aloes, one pound of rosin, one pound of sulphur; mix and keep in the bottom of the trough.

To cure this disease, take of

Sal-soda,	-	-	-	-	-	-	2 pounds.
Sulphur,	-	-	-	-	-	-	1 "
Saltpetre,	-	-	-	-	-	-	$\frac{1}{2}$ "

This will make four doses for forty head; to be given night and morning.

Another—A correspondent writes us that turnips are an admirable remedy for the hog-cholera. They should be given them for their feed daily. Farmers who have employed this remedy say that it is simply infallible.

FOWLS.

REMEDY FOR ROUP.

To cure the roup, when a bird is attacked with the characteristic cough of the malady, or has tenacious mucus about the beak, with difficulty of breathing, I place it in a wicker-coop in a quiet shed, and put before it a drinking fountain containing about a gill of water with which I have mixed one drop of solution of aconite, third potency (may be had of any Homœopathic physician). In every instance during three years this treatment has had an effect almost marvelous; for, upon visiting the patient an hour or two afterward, I have found that the symptoms had vanished. The attack for a day or two is liable to return, yet each time in a lighter form; but continuing the medicine has in no instance, with us, failed completely to remove the ailment in about forty-eight hours. In case the disease should have made so much progress before it is observed that the sufferer is unable to drink, it will be necessary to give the dose. This is easily accomplished by pouring into the throat about a teaspoonful of the water every hour.—[*Financiers' Journal*.

CHICKEN-CHOLERA.

It was very bad here last spring, and I will tell your readers how we cured it. For every forty fowls we took a piece of asafœtida the size of a hickory-nut, broke it

in small pieces and mixed it in about a pint of corn-meal, wet it thoroughly with boiling water, and placed it near the roosting-place, so that the chickens could eat of it the first thing in the morning. If they were not too near dead to eat, a cure was certain.—[*Letter to Ohio Farmer.*]

TO FATTEN FOWLS IN A SHORT TIME.

Mix together ground rice well scalded with milk, and add some coarse sugar. Feed them with this, but not too much at once.

COLD AND CATARRH.

Give pulverized red pepper, or which is the same thing, Cayenne-pepper, in soft feed, every day or two until relieved. Keep your fowls on dry, elevated places, if possible.

Putrid affections are prevented by occasionally mixing pulverized charcoal with the food of chickens.

LICE.

Lice or vermin on fowls, about their nests, etc., can be very readily removed by sprinkling kerosene-oil on their roosts and nests. Or, a better plan is to tack a narrow strip of old cloth on the top of the scantling on which they roost and then sprinkle the oil on this. Another good means is to sprinkle some sulphur on the ground where they dust themselves. To make roosts of sassafras poles is also highly recommended.

DROOPING WINGS.

Take some lard and apply a little underneath the wings of the fowls and on their beaks and it will soon remedy this difficulty. This drooping usually originates from vermin, which the grease will remove.

CHOLERA.

A good remedy is to feed raw onions, chopped fine, mixed with their food, about twice or three times a week. A remedy published by the Department of Agriculture, is alum-water; three or four teaspoonfuls of it are to be mixed with their feed and given daily. This is said to cure the very worst cases.

Another—

Spirits of turpentine, - - 2 teaspoonfuls.

Sulphur, - - - - 1½ ounces.

Bran or meal, - - - - 1 quart.

Mix. Feed once a day. It is usually an effectual cure for this disease.

TO FATTEN TURKEYS.

Mix finely pulverized charcoal with their feed, and turkeys will fatten more rapidly and their flesh will be superior in tenderness. Mashed potatoes and meal are good articles to feed turkeys with, and to mix the pulverized coal with.

TO MAKE HENS LAY.

To one and a half gallons of boiling water add two ounces of lard, two teaspoonfuls of common salt and one of Cayenne-pepper. Stir the mixture thoroughly; then, while boiling, stir in equal proportions of corn and oatmeal until a thick mush is formed. It will be well to taste the feed in order to see that you do not have an overdose of pepper or salt in the preparation. This feed is not to be given the fowls all the time; a change occasionally is necessary; and on days when it is omitted, give them about one-half an ounce apiece of fresh meat, chopped fine. At all times keep a good supply of gravel, lime and pure water convenient to them. It is said that hens may be made to lay eggs the "year round" by feeding them on red peppers, or mixing it with their feed and giving it to them two or three times a week.

Another—Another mode that is highly recommended for making hens lay perpetually, is to keep them separate from the rooster; give each half an ounce a day of fresh meat, chopped up like sausage-meat, from the time insects disappear in the fall until they appear again in the spring, and never allow any eggs to remain in the nest for what is called nest-eggs.

A hen is said to have the capacity of laying 600 eggs, and no more. A few the first year, about 320 to 380 the next, and the balance from the fifth to ninth year inclusive. Therefore, it is not profitable to keep hens after their fourth year. By feeding proper and stimulating food as above given, hens can be made to lay the quantity of eggs with which they are endowed in much shorter time than if left to "scratch for themselves."

It is scarcely necessary to state that roosters should not be excluded from the hens, when it is desired to hatch chickens from eggs.

In order to raise chickens successfully, the male birds should be replaced with a different breed once every two years.

GAPES.

When taken in the first stages, camphor will relieve this difficulty. Give a portion, the size of a wheat-grain, daily, and put camphor in the drinking-water. Spirits of turpentine will often accomplish the same purpose. It may be given in meal. At the same time improve the deficiencies of diet and shelter your fowls; a want of which are the causes of this difficulty. In very severe cases of gapes, if it is desirable, they can be relieved by introducing a loop of horse-hair into the wind-pipe, and turning it round during its withdrawal; this will bring out the worm which is the cause of this difficulty. Frequently it is necessary to repeat the operation in order to extract all the worms. Small portions of dough mixed with soft-soap, given once or twice, is reputed a cure for gapes.

EGG-EATING HENS.

This habit can be effectually cured by breaking an egg, sprinkling the contents with Cayenne-pepper, and turning the egg round so as to get the pepper below the yolk; after which place the egg in the nest or where the hen will get it. It is seldom that the dose will have to be repeated. Hens very seldom, if ever, eat their eggs when they are properly supplied with lime, gravel and animal food.

PULVERIZED BONES FOR FOWLS.

Burn them white, when they can be easily pulverized. Then mix with corn or oatmeal, and feed once a day.

TO PRESERVE EGGS.

Take eggs as soon as they are laid and smear them with butter, and they will keep good for months. Lard is recommended for the same purpose.

TO TEST GOOD EGGS.

When it is desired to test good and fresh eggs, put them in water; if the large end turn up, they are not good. This is a reliable rule to distinguish good from bad eggs.

BEES.

A community of bees is generally understood to contain from twelve to thirty thousand individuals. About nine-tenths of this number are working bees, and the remaining tenth drones; and at the head of this commonwealth, there is a personage entitled "the queen."

The queen—This important individual differs, in appearance and functions from all the other members of

the family. She is darker, longer and more taper in figure than the common bee; her legs are shorter, wings longer, and her color underneath is a yellowish-brown. She has a sting, which she uses only on important occasions. She is the mother of the whole family, and has been known to produce a hundred thousand eggs in a year. She is not only a mother, but a sovereign, and so loyal are her subjects that the absence, whether by death or otherwise, of their queen, causes an immediate suspension of all labor and the speedy dispersion of the whole hive.

Working Bees—These are smaller than the queen and drones, and habitually make provision for the sustenance of the whole family. They proceed on the principle of what is now called a “division of labor,” the secret of which man may be said to have learned from the bee. Some make the comb, others keep the eggs warm, others feed the queen and young brood, others ventilate and clean the hive, others stand as sentinels to guard against attack and warn of danger, while still others collect the required flower and honey.

The drones—These are large, dark and hairy, have no stings, are heavy on the wing, and the sound of their humming so much deeper as to have given rise to the common term of “*droning*.” They are sometimes the victims of a war of extermination waged against them by the workers. .

Swarming—When the hive contains too many to leave space for breeding young bees and storing honey, they swarm, or colonize. If the owner does not wish to lose his bees, he must prevent this by providing more hives or more room in the parent-hive; either of which will have the desired effect.

Artificial swarming—This should be undertaken only when the nights are warm and honey abundant in

the fields. To divide them, have a hive at hand, of the same size and pattern as the others. Then from four hives take two frames each and place them in the new hive, supplying their place in the old with empty frames. Then move an undisturbed hive to a new place a rod or more away, and place the new hive where the old one stood. This should be done in the middle of a fine day, when many bees are absent in the fields. These will come to their old place and find it strange; but, as it contains stores and eggs from which to rear another queen, they will remain contented in their new home. This may be repeated every two weeks, until you have secured sufficient room, and no hive will think of swarming.

Position of the hive—The best is a sheltered place, on low ground, as far as possible from damp, noxious smells and disturbing sounds.

Time of changing hives—The best time for this is about the swarming season, which varies with the latitude and climate.

Food for bees—Whenever this is really required, refuse honey is the best; though various substitutes for this have been resorted to, not unsuccessfully.

Pasturage for bees—Wild-flowers, clover, peas, beans, fruit-trees of all kinds, flowers of the broom, furze and bramble—these are the best feeding-ground for the bee. Cactus, black hellebore and mignonette are also favorable. Many others are appropriate to different sections as the Pacific Coast etc.

Water-supply—If there be no convenient natural supply, a small vessel must be placed near the hive and frequently filled to the brim. To guard against drowning, a thin piece of wood, perforated with holes, may be so placed upon the water as to cover its whole surface.

Sunshine and shadow—Too much heat is injurious

to bees. They should never be exposed to the full glare of the sun in hot weather.

Enemies of bees—Domestic fowls sometimes, some birds, especially the titmouse, or blue tom tit, mice, rats, slugs, snails, wasps and hornets. Against all these, adequate care and watchfulness will protect the hives.

Care of bees in winter—A cold, dry, dark room is the best winter-quarters for bees. They will consume less honey than if left on their summer stands, and will not be weakened by the loss of thousands, which, tempted out by the premature warmth, are caught by the cold winds, fall to the ground and never rise again.

Never kill a bee—The smoke of the common puff ball, when dried so as to hold fire, has a stupefying effect on the bees, and renders them as harmless as brimstone does, without any of its deadly effects.

DIVISION NINTH.

HOME.

BY C. D. N. CAMPBELL.

This is one of those common words which we all understand, perhaps, after our several fashions, but which none is able precisely to define. It would seem to mean one thing to one man, and something quite different to another, very much according to the capacity, culture and disposition of each. Our ideas of home are somewhat like our ideas of God.

THE GREAT SPIRIT

of the savage does certainly not much resemble the God of the enlightened Christian. Many of the attributes of these beings are just the opposites of each other. But, behind the crude or imperfect notions of both there might, perhaps, be discovered a Divine Reality, if one were only wise and great enough to find it. So, though men differ widely in their conceptions of what constitutes a home, there may possibly be some common elements, apparent to the eye of a close and exclusive analysis, in which all would agree, and which must therefore constitute the real and only essentials of

that substantial thing which all men quickly recognize, but upon all the conditions of which so few are entirely agreed.

It would further seem that, among these essential elements of home, and perhaps first among them, is a nameless if not wholly

INDESCRIBABLE CHARM.

This is like the fragrance of an odoriferous shrub or flower, which proclaims its neighborhood through miles of distance, and is strongest in the silence and darkness of the night. Something like this is the charm of home. The heart scents it from afar, when the eye cannot behold it, and gloats on the ideal picture of its beauties amidst the silence of solitude and the blackness of actual desolation. Hence, none have written more eloquently upon the charms of home than

THE HOMELESS.

The author of "Home, sweet home," was a wanderer and an exile, and sang but the passionate picture of his own sad and lonely heart. Rest, peace, love, friendship, joy—these, and much more which we cannot name or characterize, are the constituents of that wonderful charm which dwells in the word, Home. These are the breath of its fragrance and the odor of its thought. These, with the simple utterance of the name, let into the heart, as through an open window, the light of beauty and the atmosphere of purity; and it is these that render a home, whether real or fancied,

"THE DEAREST SPOT ON EARTH"

to every man.

The influence of this most wonderful and sacred of all institutions is, in its nature, purely centripetal, or

attractive ; it is the gravitating force which restrains humanity from wide and lawless wandering ; and it operates in two directions : it pulls forward, and it drags backward : it incites to build, and it acts to restrain. Its antetype is in the heart of every good man and woman. It is an ideal picture, which all feel that they must somehow place upon the canvas of their lives ; an imaginative structure, which they must build at the cost of all their earthly possessions, or life itself will be destitute of meaning and of end. To this, they are naturally and irresistibly drawn. This is the meaning of labor, of enterprise, of thought, and of all the passionate attachments of the heart. The visions of the youth, and the dreams of the maiden have this common interpretation. The apparently mysterious forces of sexual, kindred and social attachments and aversions find here their clear solution, and draw hence all their spring and energy. Love and hate, friendship and dislike, coldness and indifference, the realities of time, and even the

VISIONS OF ETERNITY,

are inspired by this passionate longing for home. It is just because this longing is so seldom satisfied, this vision so rarely realized ; because the actual experience of home has disappointed by its imperfectness and pained by its discords : it is because of this that men and women, despairing of their ideals in this world, have looked to realize them in another and better, and so come to think that the disappointments of earth may be atoned for by the fruitions of heaven. It is thus seen that the design of all theology, and even of all religion, is the realization of this common desire for

A PERFECT HOME ;

hell itself being but the everlasting limbo to which the

revengeful heart consigns the enemies and disturbers of its domestic peace.

Imperfect, however, as is the home of earth, and far as it commonly falls short of realizing the ideal of youth and maturity, yet, once built, according to man's best, it throws around him an indissoluble chain. To maintain it in being and add to its attractions, becomes now the one purpose of his life and labor. For this, he toils by day and watches by night. In the field, the shop, the office, the laboratory, the library, the forum—everywhere—the worker works for home. Allured to the paths of adventure, vice or crime, he is held back by the

TIE OF HOME.

Driven to despair by want or woe, and longing for the rest of the grave, the rash hand of the suicide in thought is paralyzed by the memories of home. Frantic with rage or bitter with revenge, the thought of direful consequences to those he loves curbs the wrath which might wreak itself in blood. If he is a good citizen—the conservator of those moral influences which hold society within the bounds of order and decorum—all this is due to the domestic stake he must venture for the gratification of an illegal avarice or illicit lust. In short, the factors of every enduring social state and the constituents of every permanent and advancing civilization, lie in the homes they embrace and of whose tender energies they are the

CRYSTALLIZED EXPRESSION.

If there be virtue, honor, worth, purity and peace on earth, they were born in its homes and will perish with their extinction.

The stormful gusts, which occasionally shake society to its national centres and threaten the overthrow of all

the institutions which Time has consecrated, issue from those apparently sudden and cyclic changes which periodically occur in the domestic temperature of the world. When, at any period in the history of a nation, love becomes a jest, friendship a myth and honor a name; when the night of Despotism has settled down clear and cold and drear, extinguishing those fires of purity and trust which burned upon the hearth of home: then the wild ruffianism of the individual man breaks forth in

ANARCHY AND BLOOD.

As it was with France, in '89, so will it be with every nationality on the earth: when the state, by its arbitrary social distinctions and unequal laws, invades and tramples upon the sacredness of home, it simply takes its own life; because the state is the product of its homes and has unnaturally destroyed those factors of which its dignity, grandeur and authority were the

MERE MULTIPLE.

When the state becomes paternal in its government; when it undertakes to educate or to regulate, in any other interest than the conservation of the public peace, the children of its citizens: then it usurps the highest and dearest prerogative of the royalty of home; and it will, in time, snatch all the others; and then, indeed, it will have committed national suicide; for society will dissolve and go back to its original elements. The Spirit of Progress, so called, who now stands embracing the pillars of the temple of our National Freedom, is the

BLIND SAMPSON

whose strength is coming fast, and who will soon bow himself to bury all in a

COMMON RUIN.

Such, then, being the influence and effects of the home it may be well, if possible, that we should form some distinct conception of its essential conditions.

The first of these is, obviously, the presence of

ONE MAN AND ONE WOMAN,

who have mutually chosen each other out of all the world, and who are held together by the same attraction of mutual and exclusive choice. This it is that makes true marriage; and those, and those only, who are thus wedded, are true husbands and true wives. They may be of any faith, or of no faith. The ceremony which united them may be gorgeous and elaborate as that of Rome, or simple and natural as that of an untaught savage.

THE ESSENTIAL THING

is, that they love and prefer each other to all the world. This being granted, they are the common centre of the circle of home. They make its earliest constituent, and its prime and essential condition. Without this, there may be much that is charming and bright, but there is no home. Indeed, whatever of brightness or of charm may be discerned in those broken circles to which this element is wanting, will be found, on a careful examination, to owe their presence to the sacred memory and still potent influence of this primal fact. If the children cling to the old roof-tree, under whose shelter sits the lonely and widowed husband or wife, it is because the vacant place was once so honorably and tenderly filled that the simple recollection of the lost has still the power to charm and bind. It is a power so

ENDURING AND SACRED

that death itself cannot quite cancel it. This, then—the

presence of one man and one woman, joined together in a tender and sacred union of hearts—makes the earliest element of the real home.

The next—and the immediate and proper consequence of this—is the presence of parents and children. When the loving wife

RIPENS INTO MATERNITY

under the chaste and tender influence of her husband's embraces, she is not only fulfilling the ends of Nature and the law of God, but she is adding another and equally essential constituent to the home. Indeed she is helping, as in no other way so efficiently she can help, to build the home. Not all the domestic virtues combined can atone for the

CURSE OF BARRENNESS.

This is the greatest of all misfortunes. Until her babe smiles in its mother's face and coos in its father's arms, their common being is incomplete. Strange and awful depths of tenderness are unsealed by the presence of the little one, whose waters could never else have purified and gladdened the hearts of the husband and wife. Holding this treasure in their arms, they

TASTE A DIVINE JOY

and unlearn the hardened selfishness of life. Their union is now first complete. They are not merely husband and wife, but the common parents of that bud of being which they see unfolding under their eyes; and this fact invests either with a new and unspeakable dearness to the other. It is no longer John and Jane, that each sees in the other, but the father and mother of my boy; and both feel that the mutual tenderness of wedded love bore no comparison to the mutual tenderness of

WEDDED PARENTAGE.

And besides this, the birth of the little stranger has, in some new and mysterious way, made them akin to all humanity. The childhood of the world has crept into their bosoms and made its home there. They love all children for their own child's sake. Even the beggar's brat, which they were wont to pass with disgusted feelings and averted eyes, seems now to be invested with a new and inexplicable charm. Their eyes have been somehow unsealed, so that they can look through the dirt and rags down to the

ANGEL NATURE

which they hide.

It seems hardly conceivable that any wife could be willing to forego this divine joy of motherhood and this sacred duty of home-building, for the unnatural claims and doubtful pleasures of fashionable society; yet such wives we are assured there are, and not a few. In the larger towns and cities—the so-called centres of civilization—it is said that, with many society-ladies, motherhood is dreaded as a curse and prevented by crime. Undoubtedly, so far as they are concerned, the sin brings its own punishment, and the punishment is sufficiently severe. It makes no difference, that they are for the present unconscious and dreadless of that

HARVEST OF WOE

whose seeds their jewelled hands are sowing every day. It will come soon and fast enough. In broken health and blighted life—in loneliness and lovelessness—they will realize, at last, that they are reaping as they have sown. But the crime against society—the sin against government and race—the infidelity to marriage vows and obligations—the putting out of the light of a home—the blighting of human possibilities of greatness and worth—the

destruction of a factor in the purity of society and the strength of a state! what personal suffering of the wretched criminal can atone for this? During an eternity of misery—could she suffer it—this sin would grow blacker by all the

SMOKE OF HER TORMENT,

and greater with every groan of her anguish. The sufferings of the sinner cannot undo the sin; albeit, it is ordained, by the organic law of our being, that the sinner shall suffer. We see, however, still more distinctly, by the lurid light of such a crime against nature and society, how essential is that second condition of home, which we have named as the relation of parents and children.

Another of those essential constituents of home whose importance it would be difficult to exaggerate, is a

DWELLING-PLACE.

This, if possible, should be the inalienable possession of its occupants. Let it be altered, improved, amended, if they will and can, but never, save under the stress of urgent necessity, abandoned. The local attachments of our nature are strong and ineradicable. The popular proverb, "A rolling stone gathers no moss," is fairly applicable not alone to material possessions, but to those higher acquisitions which enrich the understanding and the heart. These are rubbed away and lost by the sharp attritions of local change, until one becomes a mere

HUMAN BOULDER,

the mechanical result of the circumstances which have swept, tossed, and washed him hither and thither, and left him lying helpless and supine, at the mercy of every elemental and impulsive force. The steady and unchanged homestead, on the other hand, is the soil; in

which the dwellers are infixed like the strong rocks, which laugh at the storms of life, and successfully resist all violent and injurious change.

In process of time, there are transferred to such a spot and made a part of it

INNUMERABLE ASSOCIATIONS,

joyful or sad, but all alike tender and endearing. The graves of forefathers and mothers, the home-coming of brides, the departure of sons and daughters, the birth and death of children—all have left their traces on house and furniture and soil. These dumb, material things are eloquent of all the interests and emotions of the home circle. They bind its members to the spot, or force them, if they wander,

“To drag, with every step, a lengthening chain.”

Years afterward, indeed, when the family is extinct or scattered; when the fences are fallen down, the hearth-stone cold and the house a battered ruin: the footstep of a lonely stranger, treading there, is repelled by unseen forces, and something says,

“As plain as whisper in the ear,
The place is haunted.”

Haunted, indeed and forever it is, by the undying ghosts of the passionate hearts that once dwelt and revelled there.

So strong, so enduring, so imperishable is the influence of a dwelling place. No doubt,

SOME CANNOT HAVE IT.

It is out of their power to purchase and own their own dwellings. The necessity of their pecuniary circum-

stances or local surroundings forces them to rent and occupy, on such terms as they may, the hired tenements of others. This is especially true of the working classes in the cities. But even they may shun, as much as possible, removals from house to house. They may select a modest dwelling, at a price so distantly removed from the outer margin of their means as to promise permanence of occupancy if they so choose, and stay there; and this will prove, in time, a tolerable substitute for ownership. Gradually, the place will grow warm and dear to them. Should their pecuniary circumstances solidly improve, then, instead of seeking another and more eligible situation, let them take a long lease of the one they now occupy, and proceed to renovate it in accordance with their better tastes and larger abilities. This will give them that

FIXEDNESS OF ABODE

which is essential to home, and which no money expended elsewhere can purchase.

But a worse practice than that of frequent removals seems to be steadily gaining ground in the towns and cities; and that is, the custom of

FAMILY-BOARDING.

This, it is urged, is both convenient and cheap. The wife has more leisure for society, and the husband more time and money for business and pleasure. Neither is worried or hindered by the annoyances of housekeeping. All this may be true; though we doubt about the economy, from what seems to us the sufficiently significant fact, that poor families

CANNOT AFFORD TO BOARD.

They make a home for themselves because they must.

It would seem, then, that families board not because they cannot afford to keep house, but because they cannot afford to do so in a certain style which they deem essential to their social standing. If they could go to a grand and

SPLENDIDLY APPOINTED HOUSE,

they would all go to-morrow, and we should hear no more of the conveniences of boarding. Then, it is to this false and tyrannical god of Social Appearances that they sacrifice their comfort, their privacy and their home; for in boarding they can have none of these. They cannot choose their own table, their own hours, their own company, or their own entrances and exits. They must go in and out, up and down, at the beck and call of others. Their children must be deprived of their natural liberty, of all wholesome discipline, and exposed to the baneful influence and injurious caprices of strangers. Above all, they must be homeless; for a boarding-house is not, and

CANNOT BE MADE A HOME

for any one—not even for its keepers. And to compensate for all this they have two priceless privileges: the luxury of being considered respectable and the liberty of grumbling; and it must be confessed that they exercise the last so constantly that, one would think, it must be inexpressibly dear to them. If its exercise, however, can compensate them for the ruin of two homes—their own and that of the family with whom they board—we must say, that they richly deserve that

CURSE OF HOMELESSNESS

which they suffer and inflict. However, should they be

forced by kind adversity to abandon the boarding-house, though for the poorest tenement in all their knowledge, they will learn at last, with grateful and happy hearts, how much truth lives in the immortal line,

“Be it ever so humble, there’s no place like home.”

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